Thoughts

for

Joint Commanders

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Praise for Handbook for Joint Commanders...

"General Cushman is clearly one who understands the employment of joint forces."

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Commandant of the Marine Corps

"General Cushman's handbook is fascinatingly composed, full of unique wisdoms and lessons, and quite worth reading. One of its great strengths is its unvarnished directness and simplicity."

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"General Cushman has done a superb job of educating the reader on joint warfare from the JTF commander perspective. In fact, ensigns and second lieutenants can profit from his treatise."

Vice Admiral R.C. Macke, USN
Director, Joint Staff

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Foreword

A common doctrine promotes the effective operation of a military force as a team. Poorly conceived, it can be disastrous, as for the French Army and nation in 1940. When right for the times, as with the Royal Navy in the Napoleonic Wars, doctrine serves military institutions and nations very well.

A 1950 definition called doctrine "the compilation of principles and policies applicable to a subject, which have been developed through experience or by theory, that represent the best available thought and indicate and guide but do not bind in practice" and said that a "doctrine is basically a truth, a fact, or a theory that can be defended by reason." Joint Pub 1, Joint Warfare of the U.S. Armed Forces, in fewer words says much the same, adding that "doctrine cannot replace clear thinking... under the circumstances prevailing."

Reconciling Service doctrine with joint experience and theory into the "best available joint thought" is, since the 1986 Goldwater-Nichols Act, the duty of the Chairman of the Joint Chiefs of Staff, who has had a major effort underway. Goldwater-Nichols also gave unified commanders authority over the employment and joint training of assigned forces; they are innovating. The framers of joint and Service doctrine are thus writing for a moving target, one that is changing its shape as U.S. forces find themselves increasingly committed to "operations other than war."

This pamphlet, written from my own study and experience and benefiting from the thinking of many, including those who commented on its predecessor Handbook for Joint Commanders, will appear while the "keystone" Joint Publication 3-0, Doctrine for Joint Operations is in its final stage of development. This work visualizes a higher level of joint and Service teamwork and mutual understanding than does Pub 3-0, and, stemming from its systems approach and holistic view of joint operations, in some areas extends Pub 3-0's thinking beyond what the joint doctrine community seems willing to accept. I hope that joint commanders and staff officers will find this effort useful as they meet their challenges, and that students, faculties, and others concerned with joint operations will find it an incentive to "the best available thought... that can be defended by reason." Suggestions for its 1994 edition are welcome.

John H. Cushman

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Section 1. Introduction

As a joint force commander*, you will encounter situations for which there is no "doctrine," or in which doctrine gives you a range of choices, or where you conclude that established doctrine does not apply. You will be judged by how you succeed in your mission, not by how you follow doctrine. Take charge; think for yourself; and trust your own good judgment.

Joint operations are too often portrayed as a matter of management, with the senior joint commander "allocating forces" and "providing strategic direction," the joint task force as a transient organization where the effect of leadership is fleeting at best, and the fighting heart, if noted at all, at Service echelons only. Those ideas died with Desert Storm.

Forces come to a joint task force in the form of "Service components" and probably a component from the U.S. Special Operations Command.** If time is short, its commander may not know some key subordinates. Because these single-Service groupings must operate as a team, very often mixed at low levels, he needs to build them rapidly into a team -- a "band of brothers."

If a joint commander had the bravery of Alexander at the Granicus, the energy of Wellington at Waterloo, the determination of Grant at Shiloh, the operational dash of Rommel in North Africa, the command and control touch of Air Marshal Dowding in the Battle of Britain, and the battle sense of Spruance at Midway, he would still fall short if he lacked that special quality of Nelson at the Nile -- the ability to build a band of brothers.***

Building a joint band of brothers on fairly short notice is possible; Bill Keys, commanding the 2d Marine Division, did so with the Army's Tiger Brigade in the Gulf War, as did "Shali" Shalikashvili two months later with his joint/combined contingent relocating the Kurds in northern Iraq. But weeks were available before Desert Storm was launched, and for Combined Task Force Provide Comfort there was no fighting. A commander who takes a new team

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*A "joint force commander" can be a unified commander, a joint task force commander, or the commander of a Service formation with one or more other-Service formations attached, except that by definition a force that is solely Navy/Marine Corps is not a joint force.

**Known as ARFOR (Army Forces), AFFOR (Air Force Forces), NAVFOR (Navy Forces), MARFOR (Marine Corps Forces), and SOFOR (Special Operations Command Forces). For a unified command (e.g., U.S. Central Command) ARCENT would be used.

***At page 55 is a list of books that describe the leaders named.

into a joint fighting task within days of its creation should have long before, among other things, begun studying what makes the other Services tick and thinking of how he would lead people he may not know.

One quality vital in joint command positions is an absence of any trace of parochial orientation. Nothing can be so corrosive to teamwork in a joint force as the perception by those who make it up that its commander either does not understand their capabilities or, owing to an uninformed or biased mindset, chooses even unintentionally not to use them properly.

Some regional unified commanders are earmarking Service commands as potentially joint. A commander of one of these could well ask other-Service contingents to join his exercises -- as did the Commanding General, I Corps, in late 1992. He invited the 2d Marine Division to send a Special Purpose Marine Air-Ground Task Force* built around the 6th Marines to participate in an Army Battle Command Training Program "Warfighter" exercise at Fort Lewis, Washington, under the operational control of the 101st Airborne Division (Air Assault). And he funded the Marines' travel.

From the SPMAGTF commander's report: "(Reinforced with Apaches and an Army engineer and field artillery battalion...) [w]e were the main attack of the main attack... Parochial views did not cloud the goals of the exercise... Corps staff officers actually applauded our success."

When in this Warfighter exercise the commander of the 101st Airborne Division used his Marines as "the main attack of the main attack," he was probably instinctively thinking of the battalions of that command as "maneuver systems." The Apaches he ordered to support them were, in his mind perhaps, "air fires" (or could those armor killers have been a different type of "maneuver"?). It matters little how he made his mental construct; the key point is that he was surely thinking objectively of "systems" and their particular characteristics, not of the uniform those systems wore. A systems approach, and team-building in a multiservice force, are mutually reinforcing.**

A joint commander should develop his own structure of "systems" and use it to visualize his force and its employment. (One is offered at pages 4-5.)

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*Marines use this term for some MAGTFs, but may not choose to use it in this instance.

**A caution: This systems outlook can smack of an industrial approach to war. A man will die for C Company or for the 1/7 Cavalry or the 2/6 Marines, but do not ask him to die for a "maneuver system."

A commander should also do his own thinking, create his own mental images, and trust his own good judgment. This pamphlet aims simply to provide him, and others concerned with joint operations, food for thought.

Section 2. Organizing A Force

The organization chart of a joint force typically shows several "Service component" blocks (ARFOR, AFFOR, and so on) hanging on one horizontal line. A recommended approach is to double-hat most, if not all, of those "component commanders" as joint task force commanders in fact if not in name, augmenting their staffs with expertise from the other Services. A commander who is both a Service component and a joint commander usually can carry out both duties using the same headquarters, as did the Commanding General, III Marine Amphibious Force, in Vietnam, who used a single headquarters both to direct operations of Army-Marine forces and for Marine-only component affairs.

Such double-hatting reduces layering, takes advantage of Service mutual reinforcement under the most competent talent, simplifies operational direction, improves responsiveness, and enhances teamwork. It also permits purely Service functions, such as personnel administration, to be performed by those same commanders.

The commander of the Air Force component, if it is sizeable, would probably be the Joint Force Air Component Commander (JFACC).* Should the Army provide most logistics troops, their commander would be both Army component commander and the joint logistics operator; that may well free up an Army commander for joint command alone. The senior Marine and the special operations commander could each command a joint task force.**

A joint logistics operator (who could be a Marine) runs the logistics system; the JFACC (who could be Navy or Marine) operates the force's air system (which could include Army/Marine air defense units); the senior Navy commander (perhaps joint, with Coast Guard or other Service elements) handles

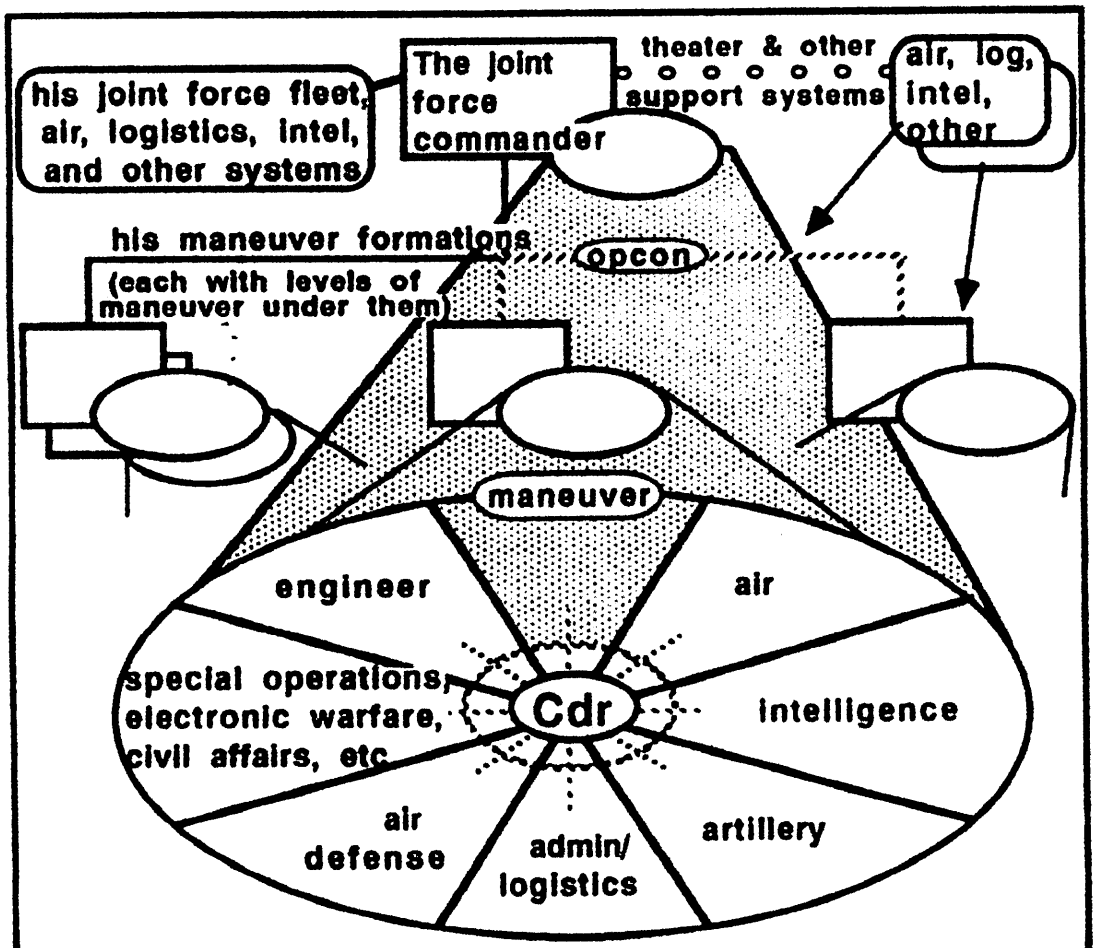
*A U.S. joint force commander can designate a single air authority, known as the JFACC (for joint force air component commander), for the "planning, coordination, allocation and tasking" of all air assets in the force. Joint Pub 1-02, p. 197. The JFACC's Service is not specified.

**This is approximately the way then Lieutenant General John M. Shalikashvili, its commander, organized Combined Task Force Provide Comfort.

the fleet system. Army and Marine-based joint task forces are major maneuver systems. Other nations' forces can readily fit into the framework.

The commander orders the force intelligence staff officer to direct an all-Service intelligence effort; he puts someone in charge of electronic warfare, psyops, medical, and other activities as necessary; he gives each the authority to match his responsibility and the staff capacity he needs. *He thus builds an organization based on leadership under the systems approach through which he, with his deputy and chief of staff, can direct the operation as a whole.*

The chart below shows shows a systems approach for a multi-division force in what Marines call "sustained operations ashore." Each rectangular box represents a maneuver formation (e.g., division, joint task force). The disks, however their segments may be labeled,* represent the many systems that maneuver formation commanders, whatever their level, must pull together.



A Joint Force as a System of Systems

*Army doctrine names seven "battlefield operating systems" -- intelligence, maneuver, fire support, air defense, mobility and survivability, logistics, battle command. Although it is essential for joint commanders to think in terms of systems, to prescribe for joint operations a standard set would be inhibiting; such is not the intent here. In this graphic, air (including fleet air) in multiple functions is throughout. A fleet graphic is at page 19.

The figure shows that no commander owns all that he employs to accomplish his mission, that each commander relies on assets that others wield on his behalf, and that each commander uses his own and his supporting assets to assist his subordinates.

At each level most systems will have a responsible person with whom the commander deals (e.g., the division artillery commander for an Army division commander who has, attached, a Marine regiment with its direct support artillery and other Marine assets). Over some means the mission-responsible commander may have only operational control (or less, as for an Army division/joint force commander and his fixed-wing air); nonetheless that commander should approach the employment of his fixed-wing air support and his Apaches as if they were a single air support system.

The higher the commander's level, the more systems he must manage. The task at the top is to achieve harmony among all, directing them in a common scheme that each subordinate understands and promotes in his own sphere.

Forces will always be mixed by Service, and at ever lower levels; that is the nature of the highly joint new world. Each Service (and nation) has taken its own approach to organizing by system; no two are alike. Blending disparate forces through a systems approach is the only way to go; achieved, it allows commanders more readily to put together, and pull together, a harmoniously functioning force. Recognition that every joint force will be built this way, and that the Services are to train their commanders and troops accordingly, will promote Service teamwork and commonality more than any other action.

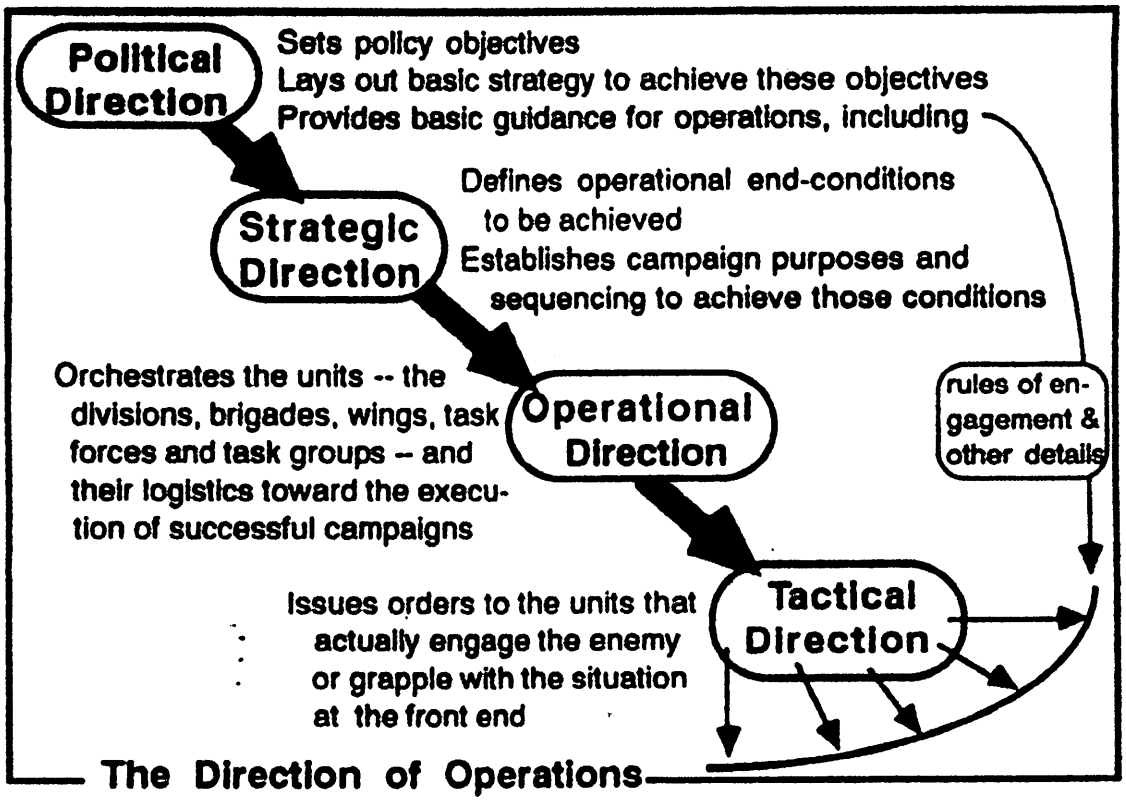
Note that the figure shows direct command of two, three, or more maneuver formations. Alternatively, the joint commander can, when satisfied that circumstances call for it, create a "land component commander" for all his maneuver formations. Page 4's figure would then have another rectangular box in the chain of command to those formations. Choosing which of these to do is a major decision for a joint force commander.*

*A land component commander may well be designated for political reasons, such as to provide an important position for a senior officer of one nation or another. This was the case in the early days of the North Atlantic Treaty Organization when a French general commanded Land Forces Central Europe; when France pulled out of NATO's military structure, that position was eliminated. A land component commander may be militarily sound, as on the Italian peninsula in World War II and the Korean peninsula in the Korean War; in both cases the joint/combined commander was offshore.

An argument in favor of his direct command of maneuver formations is that to do otherwise will deny the joint commander that hands-on touch essential to directing the ultimately decisive maneuver elements of his force.*

Section 3. Directing the Force

The chart below summarizes how forces are in principle directed. The levels overlap, so seamless splicing is required. Because there probably will be but one chance to do it right, quality performance at each level is essential.



*Air and sea forces alone can achieve some aims of the use of force (as in the 1986 punitive strike against Libya's Qadhafi, and in the Philippines, 1989, where two U.S. F-4s overhead assisted President Aquino in stifling a coup attempt). But an end-condition that calls for control of the land can ultimately be achieved only by forces on the land. Maneuver broadly defined is also decisive in operations other than war. For example, Task Forces Alpha and Bravo of Combined Task Force Provide Comfort were the combined task force commander's ultimately decisive "maneuver formations." The former assisted Kurds inside Turkey; the latter provided area security inside Iraq, built refugee camps, and moved civilians into these camps. Task Force Bravo's commander subdivided his area of responsibility, giving the French commander the easternmost sector, an Italian brigadier the westernmost, the Spanish force commander an area around Zakhu, and a Royal Marine brigadier and a U.S. Marine colonel each an area in the center -- reinforcing or supporting each of these five with special forces units of various nationalities, engineers, civil affairs detachments, and so on. These five subordinate commands of Task Force Bravo were his maneuver units. Similarly the Commander Joint Task Force Restore Hope, in a famine relieving/peacekeeping/peace enforcing mission, accomplished his task with Army, Marine, and other nations' maneuver contingents organized into formations directly under him.

Strategic direction by the theater commander should define the end-conditions to be achieved. If guidance on the precise situation to be achieved on the ground is lacking or ambiguous, the joint task force commander must articulate his own.

The theater commander may establish campaign objectives and sequencing to achieve those objectives, or he may leave that task to the joint task force commander to complete, possibly for his approval. In any event, the joint force commander thinks through those objectives and their sequencing, becomes satisfied with them, and makes them his own.

For a force of, say, corps size or less, operational direction will be that commander's task. For a force the size of Desert Storm, operational direction is done by commanders below the senior commander and tactical direction by commanders often well below that (although higher commanders may well, and properly, get into operational and tactical direction). It is rarely useful to argue whether a given case is "operational" or "tactical" direction.

The first order of business must almost always be to achieve freedom of air and naval action. Ideally, land forces should not be committed to combat until air supremacy is gained, the enemy's long-range missiles are of little use to him, his command and control is beaten down, his intelligence assets are neutralized, and the battlefield is prepared through precision air and artillery attack.*

Success -- especially in the end game -- requires control of the land. The agents for establishing physical control of the land are maneuver battalions -- infantry, armor, or reconnaissance (or mixtures of the three), moving by tracked or wheeled vehicles, by helicopter, or on foot, employing primarily direct-fire weapons, and supported by the full array of systems shown on page 4. Operations that end with those battalions on the ground in the right places will usually see the job almost, if not entirely, done.**

The essence of tactical mission success consists of fit, capable units in strong chains of command; leaders with insight, tactical skill, and a burning desire to

*Enemy missiles, such as concealed Silkworm anti-ship batteries, may make immediate "supremacy" unachievable. When, in October 1973, the Israelis suffered early from Egyptian SAMs, their only solution was to attack and take out the launchers.

**In Vietnam, big battalions were not enough; for both sides, paramilitary units, supported by regulars, were required to hold the land and ~~secure~~ the people.

provide a measure of security for

overcome the enemy, the terrain, and the situation; and troops with individual and team proficiency and fighting hearts. With a sure grasp on his forces and of the battle dynamics, each commander, understanding his commanders' intent, contributes to teamwork in a common scheme.

Along with the commander's energy and drive, the essence of joint warfare's operational art is his understanding of warfare as a duel in the air/land/sea operational volume between opposing forces, each of which is governed by the minds of men; his grasp of the dynamics of that duel in every dimension; his ability to think in terms of the harmonious orchestration of forces and their logistics in time and space; then his gathering of information, deciding what to do, and, through a chain of command, getting it done.

Section 4. Deciding What to Do

Joint and Service doctrines provide standard processes for commander/staff decision making. Army thinking* now portrays three variations, to be used as available time decreases and the commander must telescope the process of reaching his decision; these are called the "command estimate" for when time is ample, the "abbreviated command estimate" for less than ample time, and "troop leading procedure" for deciding and acting in the heat of battle. Commanders should practice with their staffs under the range of conditions.

While a structured process, using a staff, can assist in decision making, it cannot replace the commander's personal insight. Intellect alone does not guarantee insight, nor does experience. Insight comes from an absence of mindset, from willing openness to a variety of stimuli, from intellectual curiosity, from observation and reflection, from continuous evaluation and testing, from conversations and discussions, from review of assumptions, from listening to the views of outsiders, and from avoiding perfect certitude.

This reflective, testing, and tentative manner in which insight is sought does not mean indecisiveness. It simply raises the likelihood that, when vigorously pursued, the course of action decided on will be in harmony with the objective situation, and therefore successful. Staff members benefit from a commander's insightful contribution to their work, and he from theirs.

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*In the Coordinating Draft, FM 101-5, Command and Control for Commanders and Staff, July 1992

While insight is the secret of good generalship in any situation, it is even more necessary among the intangibles, nuances, and obscurities of situations that the new world order seems to have in abundance for U.S. forces, and where the key to success is well hidden and results come slowly.

As George C. Marshall wrote long ago, "The art of war has no traffic with rules... [I]n battle, each situation is unique and must be solved on its own merits... To master his difficult art, [the leader who would become tactically competent] must learn to cut to the heart of a situation, recognize its decisive elements and base his course of action on these... [T]raining in solving problems of all types, long practice in making clear unequivocal decisions, the habit of concentrating on the question at hand, and an elasticity of mind, are indispensable requisites for the successful practice of the art of war."*

Whatever the time available, the commander's fundamental need is to understand the situation. That done, the correct decision is very often obvious. While he can never know the situation with absolute clarity, he wants his perception of it to match as closely as possible in its essentials the objective situation that lies out there. Only to the degree that his perception agrees with what is really there will his decision tend to be right.

Keeping his mission always in mind, the commander seeks to grasp the holistic situation and its dynamics. The structured commander/staff process for doing this has long been known as the "commander's estimate;" its intelligence component more recently has been formalized as an "intelligence preparation of the battlefield."

Call that full process today the "commander's continuing appreciation of the battlespace."** Define it as his arriving, with staff research, at a complete understanding of the area of operations and what its geography means for him and for the enemy; the capabilities in all their dimensions of the enemy, his own forces, and others in the area; and the possible and probable interactions thereof, given his own mission and what the enemy is likely to do.

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*Infantry in Battle (Washington: The Infantry Journal Inc, 1939), p. 1. One way to train "in solving problems of all types" is the Army's Battle Command Training Program. It pits division and corps commanders and their staffs and chains of command against a "world class opposing force" that severely challenges their abilities. Observer/controllers during and after the exercise rigorously, but seeking to be nonthreatening, review commander/staff performance and the commanders join right in.

**Taking into account his own and supporting capabilities, the commander at division equivalent and higher level can think in terms of his three-dimensional "battlespace."

The commander will be looking for the enemy's main source of power; some call that the "enemy center of gravity." As he reflects, the schwerpunkt (that "decisive point" to which the command's effort is to be focused) may begin to become clear; that is where the outcome of the battle will be determined.

The approach should be holistic -- emphasizing the importance of the whole and the interdependence of its parts. Because the process takes time, a commander should undertake it for likely areas of employment well before the need arises to go there, and a data base should be on hand or available for all potential areas.

A commander accepts that, even as he strives to reduce uncertainties of the enemy and area of operations, they are characteristic of war. But he should not willingly accept uncertainty about his own situation. He recognizes war's inevitable friction, but trains commanders and staff people, disciplines their reporting, and establishes control methods and communications systems that permit knowing his troops' true situations in near real time -- and thus ameliorates that friction.

Like tactical commanders, the joint force commander should strive to develop what is best described by another term from German doctrine: fingerspitzen-gefuehl, or "fingertip touch" -- an acute hands-on sensing of the moving situation as it lies out there on the ground,* together with the situation's risks and opportunities, that leads almost by inspection to the right action. He strives also to shape the battle so that it goes his way, thereby increasing the certainty of his battle picture.

Every commander, from the joint task force on down, must understand that he finally makes the intelligence estimate and risk assessment, that he personally forms the vision and intent of his operation and conveys those to his subordinates, and that he alone is responsible for what his command does or fails to do.

During the decision-making process a commander's plan begins to take form; if time is short it must take form very quickly. His vision of the operation and its intent interacts with his thinking of the task organization of his force, the phasing of operations, the schemes of air operations, of maneuver and fire support, of logistics, and so on.

*And in the air, at and under the sea, and in space -- ideas not explicit in German thinking.

The commander may use a check list approach; somewhere in the process, for example, he will consider surprise, hence deception. But he is not bound by any particular order of thought.

Toward the end of this process, be it long or very short, the commander checks his plan against his mission. When satisfied with that check, he does one more thing: he asks himself what could go wrong. Without taking counsel of his fears, he opens his mind to that small voice that may tell him, "Watch out!" Discovering something, he either modifies his decision or takes steps to prevent mishap.

He has decided; he or his operations officer issues the order; addressees log it in; their actions begin. Even when brief and oral, the order is preferably first written. The commander will make changes as the situation unfolds.

Section 5. Getting It Done

Ulysses S. Grant wrote his own orders; they were masterpieces of clarity and directness. Commanders should consider doing the same with the key instructions for their subordinates: the statement of the command mission; the intent; the concept of operations; orders to primary subordinate units; and those coordinating instructions that he wants to emphasize.

Inasmuch as those instructions may come from the commander orally, it would be useful if what he speaks matches what his people read in the order. That is likely to be so only if he phrases both versions himself. He should do so even though, unlike Grant, he has a JCS format to follow.

Brevity is admirable; so is clarity; a simple plan contributes to both. Details belong in annexes and in standing operating procedures, preferably the latter. Overexplaining often confuses; consider that a coalition subordinate raised in another mother tongue may need to have the order translated.

A good rule: Do as you would be done unto. In paragraph 3, Execution, tell each one his mission -- "what to do" and "why" -- but not "how." Seek auftragstaktik, meaning "mission-type orders" within a common understanding of the mission and concept of operations and a mutually held way of operating that permits orders to be brief while loaded with meaning and your people to use their initiative. Phrase carefully; what you say should suffice even when the situation changes.

The commander must convey three governing ideas to each subordinate and to those not under command who support: the command mission; the commander's intent; and the concept of operations. What each should contain and where each should be in the operation order is the subject of discussion among writers of doctrine. From the Marine Corps' FMFM 1, Warfighting:

> There are two parts to a mission: the task to be accomplished and the reason, or intent.* The task describes the action to be taken while the intent describes the desired result of the action. Of the two, the intent is predominant. While a situation may change, making the task obsolete, the intent is more permanent and continues to guide our actions. Understanding our commander's intent allows us to exercise initiative in harmony with the commander's desires.

*mission: The task, together with the purpose, which clearly indicates the action to be taken and the reason therefore. (JCS Pub 1-02)

The Army's FM 100-5, Operations, defines mission as "the commander's statement of what the unit must accomplish and for what purpose." It defines intent as "a concise expression of the purpose of the operation" that "describes the desired end state" and "helps subordinates pursue the desired end state without further orders, even when operations do not unfold as planned." The Army would place mission in paragraph 2 of the operation order and intent at the top of paragraph 3, Execution.

Both the Army and the Marines see a commander's intent as governing two levels down, and call for each commander to understand and adhere to his commanders' intent two levels up.

The commander should write mission and intent himself, placing them where his judgment tells him to. He then writes paragaph 3a, Concept of Operations. This is a simple statement of how he expects the operation to unfold. It also can be the powerfully motivating expression of his own vision -- how he has decided to use his command to bring the enemy to his knees. When written well, it can be used by each subordinate to phrase his own concept of operations to govern that of the next commander down and so on, weaving thereby a fabric, elastic yet retaining, that will produce harmonious action.

All this should be short, written as if spoken. An example, for anyone to improve on (by making it shorter if possible, but preferably not longer):

Mission: Supported by air, fleet and special operations, at D-day and H-hour JTF West executes an airborne-amphibious-special operations forcible entry to seize a lodgment on Meanland's Critico Peninsula and prepares for further operations against Meanland forces.

Intent: Striking swiftly with mass, precision, and surprise after intensive air preparation, JTF West with airborne and amphibious assaults will seize the airfields and port on the Critico Peninsula and will rapidly reinforce by air and sea. By early afternoon D-day, Commander JTF West intends to be defending on Line Steel at the peninsula's neck continuing to build the lodgment and preparing for further action on order.

Concept of Operations: In two brigade-size airborne operations the 82d Airborne Division minus one brigade will seize and rapidly secure Airfields Two and Three. Simultaneously by airborne-amphibious assault the 5th Marine Expeditionary Brigade reinforced by the 1/75 Ranger Battalion will seize and rapidly secure the Critico port and Airfield One and then release a regimental-size Special Purpose MAGTF for the defense of Line Steel. As soon as conditions on Airfields One and Two permit, the 101st Airborne Division (Air Assault) will self-deploy and airland there and with the SPMAGTF under its opcon will rapidly move to defend Line Steel so as to be in position soon after noon D-day. Meanwhile, air-landed, heliborne, and seaborne reinforcements will flow into the lodgment area. Phase One of the operation ends with the lodgment secure and the 101st Airborne Division, reinforced, defending on Line Steel. Priorities of fires and other support to the 82d Airborne Division and 5th MEB until their assault objectives are secure, then to the 101st Airborne Division, reinforced.

Do not write too much. Be satisfied that your subordinates will read the entire order with care, and let what you succinctly tell each one convey in sum your full vision to all. An example: If, as a joint task force commander well might, you have placed someone in charge of attacking the enemy's C2 (naming him Special Assistant for C2 Attack, or SACA), you could write:

3g. SACA. Beginning H-hour, without harm to our own command and control, achieve a major reduction in the enemy's ability to collect intelligence, direct artillery, and exercise maneuver control in our forcible entry objective area.

Section 6. Candidate Basic Truths to Operate By

One possible basic truth might be this: "The issuance of an order or the devising of a plan is only about five percent of the responsibility of command. The other ninety-five percent is to insure, by personal observation, or through the interposing of staff officers, that the order is carried out."*

Time permitting, the commanders' "group briefback" is a valuable technique for ensuring that the order is carried out in the way visualized; along with rehearsals, many commanders used the method in Desert Storm.

Another candidate: No matter how well phrased a commander's order may be and how perfect its execution by his troops, his effort will fail to the degree his underlying insight was faulty. If his intent was "to destroy the enemy," yet his concept of operations did not convey that to trap would also be to destroy, and his orders to units failed to provide for that possibility and the enemy's main body slipped away, his order, while entirely clear, would be but evidence that this time his battle skills fell short.

Another: Orders in great detail cannot make up for a lack of team training. While there is time, a commander should tell his airman, seaman, artilleryman, engineer, intelligence officer, SACA (if he has one), logistician, and so on, each to write a standing operating procedure for his sphere and to coordinate it with those concerned at his echelon and those, if any, responsible for that sphere in echelons above and below. In skull sessions he and his chief of staff should help develop these SOPs, in map exercises refine them, in command post exercises test them, in meeting with commanders modify them, and in writing an order for a real-world operation refer to them.

Imbuing in a force an understanding of a common way of operating will simplify writing its orders. Ordinary English is best; fashionable terms or buzzwords should be avoided. Many such -- like "active defense," "AirLand Battle," "attrition" as contrasted to "maneuver" warfare -- deemed useful at the time but often misconceived or misunderstood or both, have come and gone or are going. A term that is tried and true ("center of gravity" comes to mind, and "schwerpunkt," which Marines call "focus of effort) should have it meaning plumbed by all who use it; then it can be used effectively.

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*George S. Patton, Jr. War As I Knew It (Boston: Houghton Mifflin Co, 1947) p.398.

"Synchronization" is a term used, originally by the Army, to mean bringing to bear at one time and place the combined power of maneuver, artillery, air, deception, and other systems so as to strike the enemy again and again with massed power greater than the sum of all the parts. The term can be misunderstood to call for a commander's publishing in an operation order a "decision matrix" that tells each subordinate, whether by event or by time, when he is to carry out various actions. To do that inhibits initiative.

If in December 1992's Operation Restore Hope, the joint task force commander had combined an amphibious operation at Mogadishu with an airborne operation at Kismayu, thereby achieving a powerful concentration of effort and making a more stunning impression on the trouble-making Somali warlords and providing food sooner to the hungry, that could be called the coordinated, massed, application of power toward mission accomplishment -- in other words, sychronization.

It is well to use undeviatingly in their correct meaning the accepted nouns, verbs, and idioms of battle direction, such as attack, defend, delay, support, reconnoiter, screen, boundary, fire support coordination line, passage of lines, and so on. Where no standard definition of an important term exists, finding or creating one for the command's use is desirable.

Almost any treatment of the nine Principles of War is worth attention and reflection, as long as it is appreciated that "their expression as aphorisms and their elevation in military doctrine to the position of the ultimate truths of war are very recent phenomena."*

Even as a commander directs modern war in all its complexity, he will want to keep his staff as small as possible, realizing that when minds are gifted he can get his job done better with fewer. Automation is all right for some details (march tables), but not for what humans do better (risk assessment). Teaching his staff, the commander should counsel the officer who, misinterpreting his education, would overcomplicate the operation.

But, know what is happening. Insist that your intelligence and reporting systems accurately and swiftly inform you of the results of your actions. With fingertip touch, adjust accordingly.

*From the draft FM 100-5, Operations, written at the U.S. Army Command and General Staff College, 9 December 1974.

A deception plan has its place, especially when planning an operation, but it need not be a part of every order. Deception, like concealment and operations security, contributes to surprise; that is what is sought. The commander who has seized the inititative, is out ahead of the enemy, and is dominating the battle lets the enemy's mystified mind be the source of his own deception.

The media can cost a commander surprise, but they can assist in deception by drawing the wrong conclusions from what they see. The media, all too porous, cannot be allowed to learn what they should not learn. Lives are at stake when even part of a situation or plan becomes known worldwide.

Your own "way of operating" can have come from many sources -- a BCTP Warfighter senior observer who said "Pursue! Don't let the enemy rest;" a regimental commander who led you in a pioneering exploration of "maneuver warfare;" a sergeant who told you "It's simple, lieutenant. Find 'em, fix 'em, fight 'em, and finish 'em;" a former division commander's motto, "Outwit him; outfight him." Continue to learn; convey your way of operating to your command; then you will not need to spell it out in your orders.

One day it will all come together for you, your staff, and your command. As did Nelson at the Nile, Rommel in the Carpathian mountains and twenty-five years later in Cyrenaica, Dowding in the Battle of Britain, and Franks in Desert Storm, you will know that you have it. There is no finer feeling.

Section 7. Some Imperatives

In November 1984, a year after the Beirut Marine disaster, Secretary of Defense Weinberger set out six tests to be applied when considering the commitment of U.S.forces abroad.* Although some have been criticized as unduly inhibiting military action, one of them is especially relevant:

> "The relationship between our objectives and the forces we have committed, their size, composition and disposition, must be continually reassessed and adjusted if necessary."

Objectives may be defined only generally at first (as in Somalia 1992), and made more clear as a situation unfolds. But, well defined or not, the deployed joint task force commander is responsible for informing his chain of

*At the National Press Club; The New York Times, November 29, 1984. p. A4.

command if he has important reservations about either the objectives or how his forces are to accomplish them.

Further, continual reassesssment of the relationship between his objectives and the forces committed, and timely notification through the chain of command when in his judgment the conditions call for review of either factor, is a primary duty of the joint task force commander.

A second lesson of the Beirut disaster was that rules of engagement should be clear to those individuals on the ground (and in the air or at sea) who may be called on to apply them. To remove any ambiguity in their interpretation is the responsibility of the joint task force commander. He relies on the chain of command to promulgate the explicit rules, and, through personal periodic inspection of those by whom the shots may be fired or the missiles launched, he verifies his troops' understanding of those rules. He does not put his people at risk; if a risk is to be taken, he takes it.

Open communication with your subordinates is also vital. In its Appendix II, Lessons of the Pearl Harbor Attack, the 1949 FM 100-5, Field Service Regulations, Operations, said this:

> [T]he commander who inspires his subordinates to speak out with frankness, who never upbraids them for faulty opinions, who never ridicules them, who encourages their personal confidences, has a hold on them that is difficult to shake. The commander who listens with consideration to the opinion of a subordinate binds that subordinate to him in the most effective manner.

That appendix stated twenty-five principles that the Congressional Joint Committee on the investigation of the Pearl Harbor attack enunciated to the Army and Navy "in the hope that something constructive might be accomplished that would aid our national defense and preclude a repetition of the failure of 7 December 1941." All are worth reading. Among them are:

> V. The implementation of official orders must be followed with closest supervision.
>
> XVIII. An official who neglects to familiarize himself in detail with his organization should forfeit his responsibility.

XXII. No consideration should be permitted as excuse for failure to perform a fundamental task.

While the commander's mission comes first, he has the most solemn of obligations to reduce to the minimum the casualties in his force. While all are at risk, it can be expected that maneuver units -- infantrymen, reconnaissance troops, and tankers -- will as usual take the most casualties. The way to save their and others' lives is to take the enemy air swiftly out of the battle, to neutralize his intelligence and reconnaissance systems, to avoid (preferably) or to neutralize (if necessary) his defenses, to counter his artillery and missiles, to insist on operational security, and -- when maneuver forces are committed -- to send them for the enemy's jugular with speed, skill, and mass, trapping him when possible and taking him on directly only when he is demoralized and ineffective.

It was Nathan Bedford Forrest who said, "War means fighting, and fighting means killing," including killing civilians however unintentionally. Nations, therefore, do not go to war lightly. Any U.S. war, even a commitment to battle involving only a few maneuver battalions, will be a test of the American people and their institutions. Committed in the national interest, men and women will do their duty and die; others will be maimed for life; others will suffer lesser wounds.

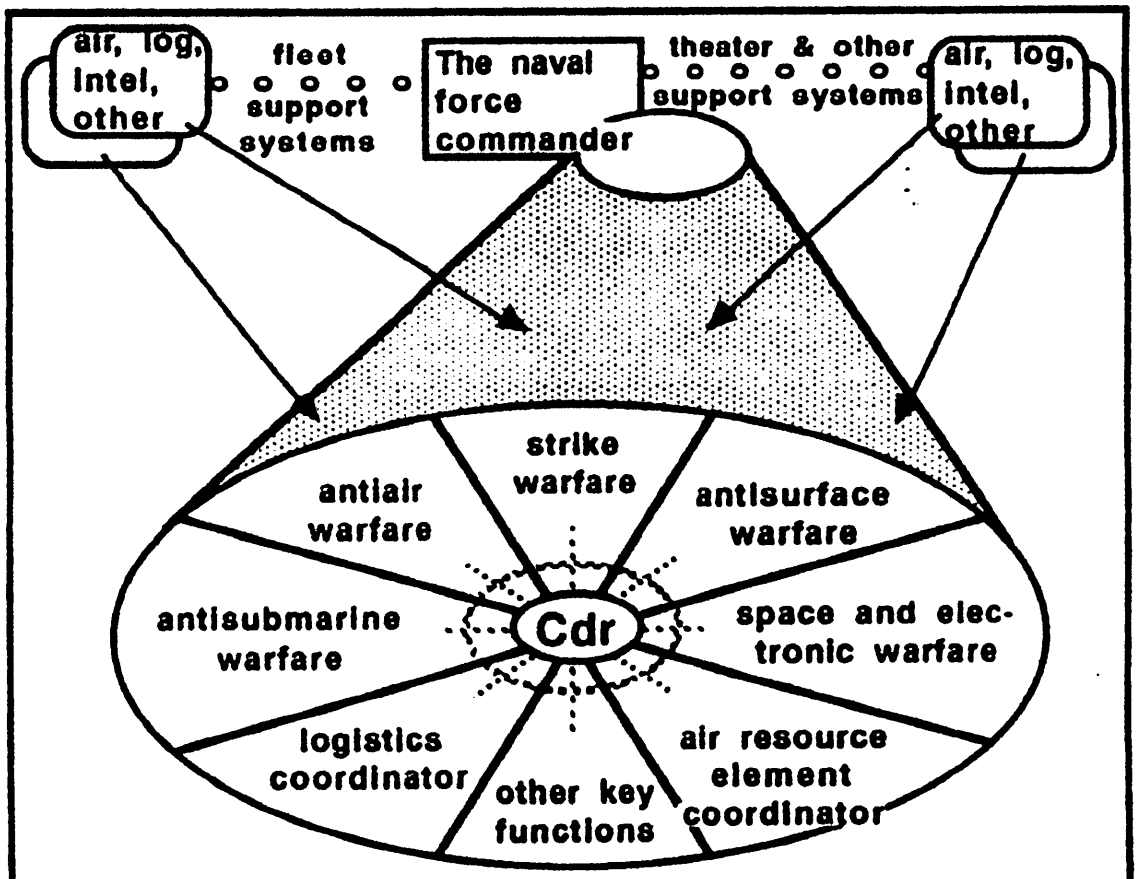
No one can predict casualties with precision, and whatever the number might turn out to be, it will always be too many. However, history has shown that well-prepared and well-employed troops suffer least and that great results can stem from small losses, painful as even the loss of one will be. Each commander's burden is to prepare well -- to train hard and well for every eventuality, then in the days and hours before commitment to leave nothing undone that should in retrospect have been done; and then to employ well. There will be but one chance to do it right.

Section 8. Service Qualities

The Services provide the forces; unified commands put them together for operations. Each Service's forces have distinctive qualities deriving from culture and tradition. Each Service's mid-level officer competence comes from years of experience in that culture. It is worthwhile to begin early in life to study other-Service forces, their ways of operating, and their cultures.

The Navy is defined by its ships, by the unforgiving sea, and by its sailors who grow up operating alone well away from the land, thereby acquiring certain qualities of separateness, independence, teamwork among themselves, and a commander's appreciation of full and personal responsibility for ship, ship mission, and group task. Navy combatants and their support come in dozens of types from riverine craft to aircraft carriers. They operate in task groupings, formed by type (e.g., mine warfare, submarines) or into composites of several types for a broader function (e.g., antiair, antisubmarine).

For "blue water operations" the fleet has employed a command concept that is a seagoing counterpart to what is shown in the figure on page 4 for operations on land; that concept is now evolving to meet new conditions involved in shifting primary naval forces to littoral operations (see Section 9, page 26).



The Evolving Fleet Command Concept

In this concept, the "naval force commander," also known as the "officer in tactical command," names a "warfare commander" for each "warfare area" shown, and "coordinators" for other functions. Each warfare commander develops standing operating procedures (preplanned tactical responses) for his

warfare area, using the capabilities of those ships primarily his and also of any ship in the force that can contribute (most Navy combatants can perform in more than one warfare area). In action, each warfare commander collects, evaluates, and disseminates surveillance information, assures timely information flow to other warfare commanders, and, using his initiative in harmony with the composite warfare commander's intent, employs his assigned forces to best advantage.*

In this concept, the naval force commander exercises command by establishing ahead of time the allocation of forces, the authority, and the planned responses of each warfare commander, by clearly tasking them and the responsible coordinators, and by exercising "command override" when the situation calls for it. The concept is essentially one of setting up a well understood common play book, communicating a game plan, then operating flexibly.

The naval force commander can focus his force's effort decisively by naming one warfare commander's area as "supported" and all other parts of the force as "supporting;" supporting warfare commanders and coordinators then do all they can to assure success of the mixed force's main effort.

The Marines are an army-like amphibious creation that like the Navy says "deck" for "floor," raises the colors at eight a.m. instead of reveille, and splices naturally with its brother species that inhabits the sea full time. Their Corps fought to stay alive for generations as a land/sea, then air/land/sea, entity when most outsiders saw no reason for it; it is now indispensable.**

Marines specialize in ship-to-shore movement into danger. Modern amphibious assault begins with clandestine entry by Navy SEAL and/or Marine force reconnaissance teams preceding the amphibious assault; these teams signal undefended or lightly defended beaches and landing areas. The assault itself begins from over the horizon. Heliborne troops launched from amphibious ships seize the intial objectives; these are simultaneously, or quickly thereafter, reinforced by LCAC-borne tanks and other heavy materiel. (LCAC, air-

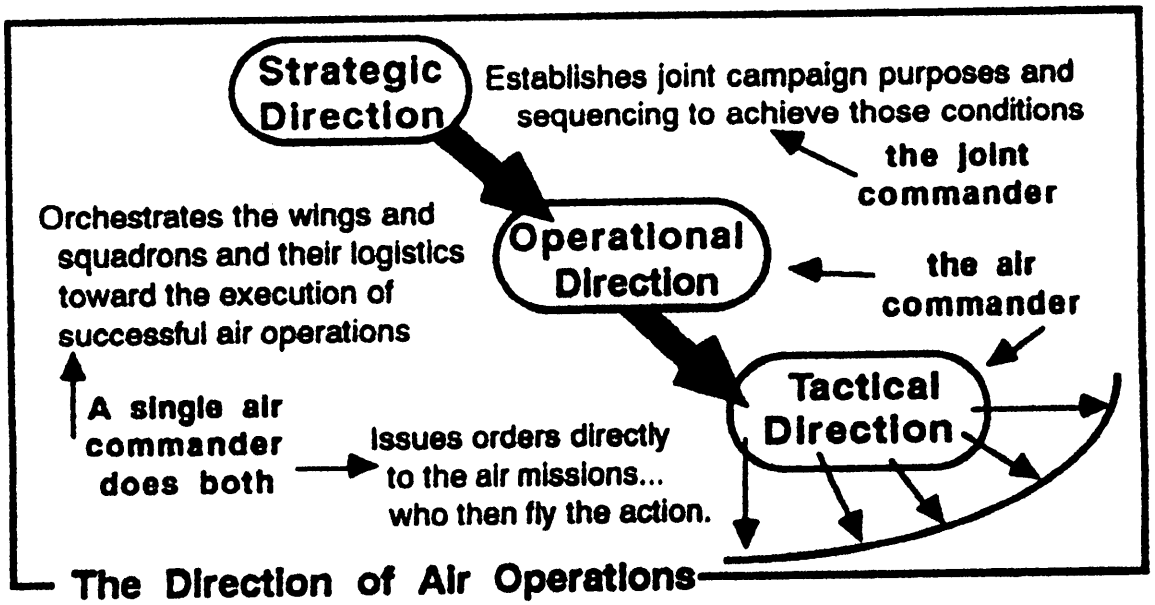
*Once called the composite warfare commander concept, this command method included an amphibious warfare commander and embarked Marines. That idea did not survive.

**The Marine Corps' raison d'etre is even today not perceived by many. Joint commanders should make allowances for the Corps' therefore devoting considerable attention to doctrine and self-description aimed at making clear why it exists and must continue to do so.

cushion landing craft, launch from amphibious ships). Amphibious ships then bring tracked assault amphibious vehicles and other landing craft closer to the shore, and the amphibious operation continues from close-in. Naval gunfire and attack aviation support the landing force. Over-the-shore logistics predominate early; port operations begin after ports are seized and opened.

Owing to physical restrictions such as ship, boat, and helicopter dimensions, amphibious assault calls for detailed procedures. Once ashore, Marines want to be lighter on their feet than when getting ashore. As Marines move to their new concept of "operational maneuver from the sea," they are seeking to build highly proficient yet flexible shipboard teams whose procedures permit commanders to seize unforeseen opportunities during the assault, even to change to an alternate beach or landing zone. Marines know that a reorientation of commanders and troops is needed for that change; they intend that its effect will permeate the style of Marine operations ashore as well.

An Air Force commander routinely practices both the operational art and tactics. Should he be the JFACC (see page 3), for the force commander he plans and executes air operations of days, weeks, even years in duration. On the other hand, each day from the same command center he tasks air missions one by one; in the course of a day he may "rerole" air from, say, interdiction to close support. The Air Force calls this "centralized planning and decentralized execution." It is portrayed below.



The Direction of Air Operations

The JFACC's command task thus differs from that of an Army or joint force commander. More air- and weapons-minded, faster moving, more detailed, it calls for processes, decisions, expertise, and insights of another nature.

The JFACC responds to the mission assigned to him by the joint force commander by making an air estimate of the situation in operational terms. He converts the joint force commander's and his own operational decisions into tactical instructions to air mission commanders. His command center reads detailed intelligence, selects targets, builds packages, coordinates strikes, specifies munitions, arranges air refueling, tasks squadrons, and puts together the daily air tasking order.

The Air Force is defined by the air and its aircraft and by a vision of air forces' unique flexibility and power. The flexibility of air forces stems from the three dimensional, homogeneous air medium and the ability of aircraft to traverse that medium quickly and mass their capabilities.

Air forces' power stems from their wide-ranging ability to attack surface targets of all kinds with highly destructive effect, to engage enemy aircraft in air-to-air combat, to gather and process intelligence information, to conduct electronic warfare, to impede enemy movement, to move troops and supplies to and about the battlefield, to evacuate personnel and equipment, and to protect themselves from enemy air and surface interference as they perform those and other functions.

Air Force leaders have long believed that air is decisive and must be wielded centrally; they cite the air campaign of Desert Storm, in which an Air Force JFACC in classic airpower fashion directed for his commander a decisive all-Service and multinational air effort, as vindication of that belief.

The Army masters air/land operations through a flexible, matrixed, hierarchical structure of considerable versatility that is built around maneuver units and formations from company to corps. At each echelon there is an increasingly complex mix of combat support and service support units, culminating in a logistic support structure that, as in Desert Storm, can service a theater. After spinning off the Army Air Forces into a separate Service with which it continued to work (more closely in recent years), the Army grew its own air in the form of helicopter units that integrate into the maneuver, fire support, intelligence, logistics, and command and control of Army operations.

Although both the Army and Marines engage in land operations, except for artillery and perhaps one or two other kinds of troops, the two Services organize and operate quite differently. Start with the rifle squad: Marines have

thirteen men with three fire teams; Army infantry has nine with two fire teams. The Marines go from there to build very large, although more or less similarly equipped, infantry battalions compared to the Army.

The Army has fully mobile tank/infantry (armored/mechanized*) formations from battalion to division; the Marines do not. Marines can create such formations temporarily by attaching a company of tracked assault amphibious vehicles with crews to an infantry battalion (these AAVs carry about eighteen fully-equipped men, rather than the six or so of the Army's Bradley infantry fighting vehicle) and by giving the battalion commander a tank company or two, but the result is not the same.

The Marines own light armored wheeled vehicles (LAVs) and use them in fully mounted light armored infantry (LAI) companies and battalions for reconnaissance; when augmented by LAV-mounted TOW antitank missile platoons and tanks, these LAI units can do some fairly heavy fighting. The Army has no such vehicle or units; it does reconnaissance (and often heavy fighting as well) with armored cavalry troops and squadrons equipped with infantry fighting vehicles, tanks, scout helicopters, and attack helicopters. Marine tank battalions operate primarily with AAV-mounted infantry to form task forces; these may be tank-heavy, infantry-heavy, or balanced.**

Unlike Marine divisions, Army light infantry divisions require added mobility, antiarmor, and fire support to cope with enemy armor, as does the 82d Airborne Division, although to a lesser extent. The airborne division is capable of an airborne forcible entry from battalion to division size. Airborne forcible entry requires air supremacy in and enroute to the objective area and depends on teamwork, detailed planning, and surprise. Clandestine entry of special reconnaissance teams can precede forcible entry. The forcible entry itself begins with the parachuting of pathfinder teams to mark the drop zones; this is followed by the parachute assault of troops and their personal and small crew-served weapons and immediate supplies, along with the heavy drop of equipment rigged with large parachutes. Air attack and special operations teams can isolate the objective area from early reinforcement by the enemy. In the initial stage, tactical air substitutes for medium and multi-

*"Armored" and "mechanized" mean the same thing; the latter term is used for units of foot infantry heritage that were converted years ago to armor-equivalent formations. The 1st Cavalry Division is "armored."

** The Marines are creating two essentially armored "combined arms regiments."

ple launch rocket system (MLRS) artillery support. Assault objectives will include one or more airfields or highway stretches capable of airlanding follow-on troops and equipment. Immediately upon airfield seizure, USAF aerial port detachments and Army units organize the airlfields for quick airlift turnaround and rapid clearing. Troops carry three days of supply into the airborne/airland assault; until ships of the sea echelon arrive, forces in the objective area depend on airlanded troop reinforcement and resupply.

The Army's 101st Airborne Division (Air Assault) is unique. With some 350 helicopters it can establish one or more forward operating bases deep in enemy territory; from those bases self-sufficient assault infantry battalions, equipped with HMMWV-mounted TOWs and supported by AH-64 Apache helicopters, can with close and deep air support range even farther to seize landing zones and operate from them against armored and other forces.

Each Army division has an aviation brigade, and a cavalry squadron with scout and attack helicopters that can operate in a screening or reconnaissance mission. Armored/mechanized divisions use the aviation brigade to conduct operations in which its tank-killing Apache battalions fight deep or on a flank, avoiding enemy forward air defenses by finding their seams and attacking from long range. The division's OH-58D helicopters and its Apaches, with their electro-optic suites and laser rangefinders, can acquire targets night and day at long range. Both aircraft can work at low level, sending precise target data to the division artillery's fire direction centers. Apaches and the artillery's multiple-launcher rocket system (MLRS), triggered by fire detection radars and OH-58Ds working together, can find and destroy the enemy's long range guns. The division commander uses the same Apache-MLRS combination to thwart a threat to the division flank, or to go deep while the ground maneuver brigades fight the battle closer in. Night vision devices and night target-detection and sighting equipment in its maneuver units make possible around-the-clock fighting by the armored/mechanized division, and indeed by all Army divisions.

The Marines have formulated a vision of "maneuver warfare... a warfighting philosophy that seeks to shatter the enemy's cohesion through a series of rapid, violent, and unexpected actions which create a turbulent and rapidly deteriorating situation with which he cannot cope."*

*FMFM 1, Warfighting, Headquarters, U.S. Marine Corps, 6 March 1989, p 59.

Marines organize Marine Air-Ground Task Forces (MAGTFs), each with a command element, an aviation combat element (seen usually as both fixed-wing and helicopter), a ground combat element, and a combat service support element. A Marine Expeditionary Force, built around a reinforced division more or less, is the largest MAGTF. The smallest has until recently been a Marine Expeditionary Unit, its ground combat element consisting of a reinforced battalion landing team and its aviation combat element with helicopters only; the MEU is often reinforced with capabilities and given additional training so as make it a "special operations capable" MEU (SOC). Recently, Special Purpose MAGTFs formed around a rifle company have deployed on aircraft carriers. As noted on page 2, Marines have also configured at least one SPMAGTF of regimental size, without fixed-wing aircraft; its Army counterpart would be a brigade task force with a helicopter unit.

While Marines will readily reinforce a MAGTF with Army or another nation's troops, they hesitate to break up a MAGTF to put, say, a ground or aviation element alone under Army or other command. Such hesitation will not apply should, for example, a Marine field artillery battalion or logistic unit be needed in a non-Marine artillery or logistics grouping, but Marines may prefer even then to call the unit a "MAGTF."* Army commanders routinely send units of all kinds to another commander's operational control.

Since its establishment in 1987, the U.S. Special Operations Command has been a fifth, Service-like, provider of forces to unified commands; it may upon occasion be designated the employing command. Special operations forces considerably expand the choices available to joint force commanders; rare would be the situation in which their capabilities would not be useful, whether employed independently or along with conventional forces. Joint commanders should always call on their expertise in planning; when employed they should be integrated at every stage of planning and execution.

Special operations include not only unconventional warfare, special reconnaissance, and direct action, but civil affairs, psychological operations, assistance to other nations in their own internal defense, and coalition support. The latter can be especially valuable in situations where a U.S. multinational commander must establish liaison teams with other nations' forces, providing them with operational expertise and communications.

*As occurred with a Marine logistics unit in Operation Provide Comfort.

Army special operations forces include: special forces teams in a company and battalion, and even group, chain of command; airborne ranger battalions, over which the 75th Ranger Regiment can provide a command echelon; the special operations aviation of the 160th Aviation Regiment, with its specially equipped, all-weather, short- and long-range transport and attack helicopters; and psyops and civil affairs capabilities.

Navy special warfare forces include: SEAL (Sea, Air, Land) teams specially trained and equipped for riverine and maritime special operations, including fleet and amphibious warfare support; special boat units for coastal patrol and interdiction and SEAL insertion and extraction; and capabilities for delivery of SEAL teams in clandestine entry.

Air Force special operations forces include: fixed and rotary wing aircraft for short- to long-range infiltration/exfiltration; long-range refueling for Army/Air Force helicopters at night and at low-level; rescue, armed escort, reconnaissance, interdiction, and surgical close support; and psyops broadcasting.

Special operations forces come to a joint force as a single special operations command* that its commander will prefer to keep intact as he conducts joint special operations in support of a theater campaign plan; these operations may be deep in enemy controlled rear areas. Special operations forces may also directly support conventional operations. For example, a ranger battalion could be tasked to seize a key objective in support of Marine or Army forces; in this case the special operations commander may plan and execute the insertion including its air support. The special operations commander will be prepared with a variety of liaison and coordination cells to insure that special operations are planned and executed in harmony with the other commands of the joint force. On the other hand, the joint commander, by reinforcing his special operations command with conventional capabilities, can create a separate task force for a specific mission.

Section 9. Employing the Fleet in Littoral Operations

The United States being an island nation, force projection operations involving U.S. forces will take place across coastlines. Using terms such as "littoral operations" and "operational maneuver from the sea," and seeking innovations in amphibious materiel and operating methods, the Marines and Navy are working to make the necessary sea-to-land transition as seamless as pos-

*A Joint Special Operations Task Force (JSOTF) is one form of such a command.

sible. One concept is a Navy/Marine Corps naval expeditionary force; its command arrangements are currently evolving.

Joint amphibious doctrine* calls for two phases of command -- the assault to be commanded by Commander, Amphibious Task Force, and the subsequent phase by the Army/Marine** Commander Landing Force. Joint airborne practice is that the commander of the airborne/airlanded force commands both the assault and subsequent phase. When the airborne/airlanded force combines with an amphibious and a special operations force, and is then joined by fleet combatants to include a carrier battle group plus mine warfare and other inshore combatants, the CATF-CLF two phase concept is probably not valid.

The situation calls for a new term, "forcible entry," and new operating methods and command arrangements. Forcible entry is defined as "the seizure of a military lodgment in the face of armed opposition" -- this is done through any combination of airborne (i.e., parachute), airlanded (i.e., cargo aircraft), air assault (i.e., heliborne), amphibious (i.e., ship-to-shore), and special operations forces. Forcible entry is a powerful tool that takes advantage of mutually reinforcing all-Service capabilities.

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*Joint amphibious doctrine today preserves the basic command and operations concepts laid out in the 1936 U.S. Marine Corps Tentative Manual for Landing Operations, as these were modified by all-Service experience in every theater during World War II and codified in the years just after that war. Doctrine calls for a Commander, Amphibious Task Force, and a Commander, Landing Force. "CATF... a Navy officer, is charged with overall responsibility for an amphibious operation... upon embarkation of the landing forces... assumes responsibility for the entire force and its operation, and is vested with commensurate command authority to ensure success of the operation." Commander, Landing Force (CLF) "is in overall charge of the landing forces from the issuance of the initiating directive until the conditions established in that directive have been met and the amphibious operation is terminated. The CLF is a subordinate of the CATF within the amphibious task force [ATF]. During the planning phase of the operation, the CATF and the CLF enjoy coequal status for planning their respective portions of the operation. Planning matters on which the CATF and CLF and commanders of other forces are unable to agree are referred to their common superior for decision. [W]hen in the opinion of the landing force commander: the force beachhead has been secured... sufficient forces have been established ashore to ensure the continuous landing of troops and materiel... command, communications, and supporting arms coordination facilities have been established ashore... [and] the CLF has stated that he is ready to assume responsibility for subsequent operations... the CATF will report these facts to the higher authority designated in the initiating directive. This authority will then terminate the amphibious operation."

**Given that modern amphibious assault requires special equipment and training, that its shipping is limited, and that Marine units trained for amphibious assault are ample, Army forces will not conduct an amphibious assault in the foreseeable future, if ever again.

Forcible entry operations will be quite complex, raising issues of command posts, communications, control and protection of the airborne/airlanding aircraft serials, inshore fleet operations including the amphibious assault, and sea control. Who performs airspace control, air defense, and electronic warfare, and how? What techniques will keep air and ground boundaries and fire support coordination lines straight while executing parachute, air assault, and air landing operations along with amphibious assault? What about logistics? Intelligence? Can a carrier be the joint commander's flagship?

The command and control challenge is to combine the joint-force-ashore portrayal on page 4 with its fleet-at-sea counterpart on page 19, adding to that mixture the solutions that the Navy/Marine Corps team is developing for a naval expeditionary force built to execute operational maneuver from the sea, while addressing the Air Force's (and other Services') ideas on the JFACC. It would be prudent for the joint establishment to press on with meeting this challenge, using unified commanders to develop and test solutions.*

Joint concept developers can begin with the proposition that -- when double-hatted as joint task force commander, and provided that he, his staff, and his force have prepared together for that eventuality -- either the commander of a fleet or naval expeditionary force, of a Marine Expeditionary Force, of an Army corps, or of a numbered air force where air is predominant, can command a joint forcible entry operation, but that no commander and staff can be called qualified without having trained as a team beforehand.

Section 10. The Joint Force Air Component Commander

Since the Gulf War, the Air Force no longer says "tactical" or "strategic" air, but "combat air," which it calls part of "aerospace power," defining that as "the ability to use a platform operating in or passing through the aerospace environment for military purposes," thereby including air transport, space vehicles, air defense and long-range artillery missiles, and all helicopters in aerospace power.**

It would seem that to use the notion of "aerospace power" to organize the air of a joint task force stretches the logic of a joint force commander's systems

*Navy/Marine Corps practitioners in recent brainstorming sessions at Quantico have addressed such questions alone. An all-Service group might well do the same.

**Air Force Manual 1-1, Department of the Air Force, March 1992, Volume II, p. 71.

approach. While his Air Force contingent does only air operations, for the other forces of his command, air, like trucks, or computers, or communications, is everywhere.

Yet, accomplishing much the same end, the joint force air component commander (JFACC), who "derives his authority from the joint force commander" and whose responsibilities are "assigned by the joint force commander,"* is now the kingpin for the employment of a joint force's air. Students and practitioners of joint operations must understand the JFACC.**

For Desert Storm, the theater commander designated as the JFACC his Air Force component commander, who with an essentially Air Force staff (along with liaison officers from other Services and nations) then wielded the combined air of all U.S. Services and coalition partners, including Apache helicopters when they were called for and the Navy's cruise missiles. A few weeks later, the joint commander in Operation Provide Comfort placed Army cargo helicopters under his Air Force JFACC, with an all-Service staff.

Henceforth, each joint force commander, except of quite a small force, can be expected to name from among his airmen a JFACC of the appropriate Service.*** A JFACC trained by the Air Force will probably tell the joint commander that his, the JFACC's, first duty is air planning to support the objectives set by the joint force commander.****

That JFACC will likely say that air planning begins with an "intelligence preparation of the battlefield" (see page 9). Next comes determining the objectives attainable by airpower; then development of the air strategy, or how to use airpower to accomplish those objectives. This involves the selection

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*Joint Pub 1-02, p. 197.

**JFACC Primer, Deputy Chief of Staff for Plans and Operations, Headquarters USAF, August 1992, describes the JFACC concept and rationale as seen by the Air Force.

***A joint task force commander who is Air Force or a Navy airman can also be the force JFACC and the Air Force/Navy component commander, should the situation call for that. It is highly unlikely that the JFACC will be Army; the Army owns no fighting fixed-wing air.

****In Desert Shield/Storm this was called "air campaign planning." Reacting, I surmise, to a view (which the Air Force would call mistaken) in some quarters that there was too loose a rein on the JFACC-run Desert Storm air planning and operations, joint doctrine (Chapter III, Joint Pub 3-0) now says that that a "campaign" is the "synchronization of air, land, sea, space, and special operations." Thus there is no separate "air campaign." In any event, the content of the plan, not its label, is what matters.

of one or more centers of gravity.* Finally comes writing the basic (no longer "campaign") plan, from which is derived the master attack plan, from which in turn stems each day's air tasking order.

Being ultimately responsible, the joint force commander must be personally involved in the air plan, deciding its essential dimensions and objectives, identifying centers of gravity, and establishing its relationship to the other aspects of his campaign. Through his decisions on apportionment and targeting, daily and often during the day, he guides the air war's execution.

Desert Storm's air plan was the product of a months-long effort on the scene, supported by agencies in Washingon, and by an intensive target intelligence collection effort. The plan had four overlapping phases. Phase I attacked Iraq's command and control, key industrial production, transportation infrastructure, aircraft, airfields, and navy bases. Phase II focused on Iraqi ground-based air defenses; Phases I and II together would achieve air supremacy. Phase III attacked Iraqi ground forces, including the Republican Guard. Phase IV continued the other three phases into the ground fighting.

Command of the air was gained in the first hours of combat. Thirty-nine days of virtually uncontested application of coalition airpower made possible a lightning air/land campaign, which with remarkably few casualties sealed the Iraqi forces' destruction, gained control of the land, and ended the war.

Any air commander who believes he may one day be a JFACC should prepare himself to develop an air plan of equal effect to meet what he forecasts might be his situation. He should consider that Desert Storm was unique; superior base facilities were available and five and a half months were allowed to prepare for war. He may not be so fortunate.

The vehicle through which the joint commander can get a handle on his air plan and its execution is the air estimate; he asks the JFACC to assist him, the joint force commander, in preparing that air estimate. The joint force commander should himself provide the air estimate's "mission" paragraph.

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*From Essay F, "Three Levels of War," of Volume II, Air Force Manual 1-1: "A principal task at the operational level is to identify and concentrate operations against the enemy's most susceptible centers of gravity... [T]he enemy's combat forces may be one of the enemy's centers of gravity, but this is not always the case... The enemy's will to resist, political alliances, civil population, or other sources of power may be the targeted centers of gravity... [W]ars and other conflicts are likely to be lost if the enemy's centers of gravity are incorrectly identified or unsuccessfully attacked."

For a forcible entry, that paragraph might read like this:

> Mission: With the cooperation of special operations and other forces and using all available assigned and supporting air and missile capabilities, swiftly achieve air supremacy in the objective area, suppress or eliminate the enemy's ground-based air defense, and substantially degrade his ability to collect intelligence and to command and control. This is a precondition to entry of land forces into the objective area.

The joint force commander might add: "Reduce the effectiveness of defending land and naval forces by (a designated) percent."*

From the air estimate stems command guidance. The theater commander responsible for JTF West (see page 13) might have told his (theater) JFACC:

> Prevent air attack on the airborne/amphibious assault force en route and during the assault.
>
> Immediately achieve air supremacy -- complete freedom of air action.
>
> Eliminate or severely reduce Meanland's ability to collect intelligence and to command and control.
>
> Support JTF West; prevent the movement of reinforcements into, and within, its area of operations.
>
> Minimize civilian casualties and unnecessary damage to Meanland's civil infrastructure.

Army/Air Force doctrine for air employment follows from the fact that the Army has no fixed-wing air of its own and relies on an air-ground operations system in which Air Force air liaison officers are at echelons from battalion to corps and an air support operations center is alongside the corps command post, where the senior Air Force representative is a colonel. A corps commander double-hatted as joint task force commander presumably would operate in the same way. On the other hand, the Marines have their own fixed-wing air, and a tactical air control system to control it and supporting Navy and Air Force air. Should the commander of a Marine Expeditionary Force who is double-hatted as joint task force commander choose to name a JFACC, he most likely would select the commander of his organic Marine Air-

*Operations along the line of Provide Comfort and Restore Hope will call for quite a different formulation of JFACC mission and guidance.

craft Wing. Two joint task forces in one CinC-commanded operation could well be using two quite different methods for directing air operations.

For years, the practice in joint commands has been that fleet and MAGTF commanders make air assets available to the joint force commander after each determines what is necessary for his own mission. A joint force commander need not use this process when in his judgment it does not foster his integrated joint force's mission accomplishment. As he sees fit, he can direct fleet and MAGTF commanders to send air to his JFACC for the latter's tasking.

Section 11. Deep Operations*

In developing Phases I and II of the Desert Storm air campaign the air planners did not need to take into account the plans of land commanders below the CinC for the land offensive. In planning Phases III and IV they did, thereupon encountering views, especially on targeting and coordination in the deep battle, that they never successfully accommodated. Since Desert Storm, unified commanders and writers of joint doctrine have sought to reconcile differing views on how air is to be controlled in deep operations.

Much of the divergence involves the fire support coordination line (FSCL) that land formation commanders draw a few kilometers forward of their maneuvering troops to define the area short of which close air support must be coordinated with their units and beyond which air can usually attack without coordination. The Air Force believes that all firepower, including missile attack, forward of the FSCL is "air interdiction." It holds that "the theater commander should make the [JFACC] responsible for controlling the overall interdiction effort when aerospace forces provide the preponderance of

*This section's title is "Deep Operations" rather than "Interdiction." The latter term -- because it is frequently taken to mean "air interdiction" alone, and because "air interdiction" itself derives from ideas of World War II and Korea that air warfare has three stages ("air superiority," "isolation of the battlefield" or "interdiction," and "close air support") and that these are the priorities of air's use -- can interfere with the joint commander's objective thought about the holistic situation he faces and the cause-and-effect interactions of his available forces with the adversary as they operate harmoniously in that situation. When Apaches are defined as "close air support," and when they and MLRS artillery, both organic to an Army division, can do "interdiction," earlier concepts of air employment need rethinking. I believe that shifting to new terms facilitates objective rethinking to the benefit of all. (There is, beyond "interdiction" but related to it, the "direct attack of enemy strategic centers of gravity," to include his air/missile capabilities, his C2, and so on. This is a matter for which the joint force commander is also responsible and the targets for which may be deeper than deep as construed here, but it is a different subject.)

interdiction capability." Its definition of aerospace (page 28) means that when tank-killing Army Apaches strike beyond the FSCL, they should "come under the purview of the JFACC" and that "the same holds true of Army ATACMs [long range missile artillery] when employed.. beyond the FSCL."*

Army division and corps commanders, citing their abilities to control their own air/land operations and to coordinate those of supporting air, and thinking in terms of the capabilities described on page 24, find inconceivable the notion that the JFACC directs for them the battle forward of the FSCL. They see deep and near operations as a seamless web of simultaneous activity in which deep operations are crucial to successful close-in fighting and include deception, deep surveillance and target acquisition, communications countermeasures, and interdiction** (a better term would be "deep attack") by ground or air fires, ground or air maneuver, special operations forces, or any combination of these. Citing counterfire against deeper enemy artillery positions and electronic warfare to disrupt rearward enemy command and control, they hold that not all actions beyond the FSCL are "deep" operations -- and certainy are not "interdiction," however defined. They would expect the JFACC, like them under joint command, to use his air in harmony with their, the land formation commanders', direction of the battle -- and vice versa.

The respective JFACC and land formations' capabilities for intelligence, target acquisition, and command/control have a bearing on how these differences in view are resolved in practice. When the maneuver element of a joint force is small with a limited targeting and C3 structure, the joint commander can reasonably make the JFACC responsible for air and missile attack beyond the FSCL, requiring the JFACC to establish the closest liaison with maneuver formation commanders, so that their needs are met.

Similarly, for South Korea's forward defense situation where powerful enemy ground formations are a formidable threat, massive deep attack of those formations is essential, and the defending ground forces are essentially

---

*JFACC Primer, p. 11. Strategic attack and counterair also take place beyond the FSCL.

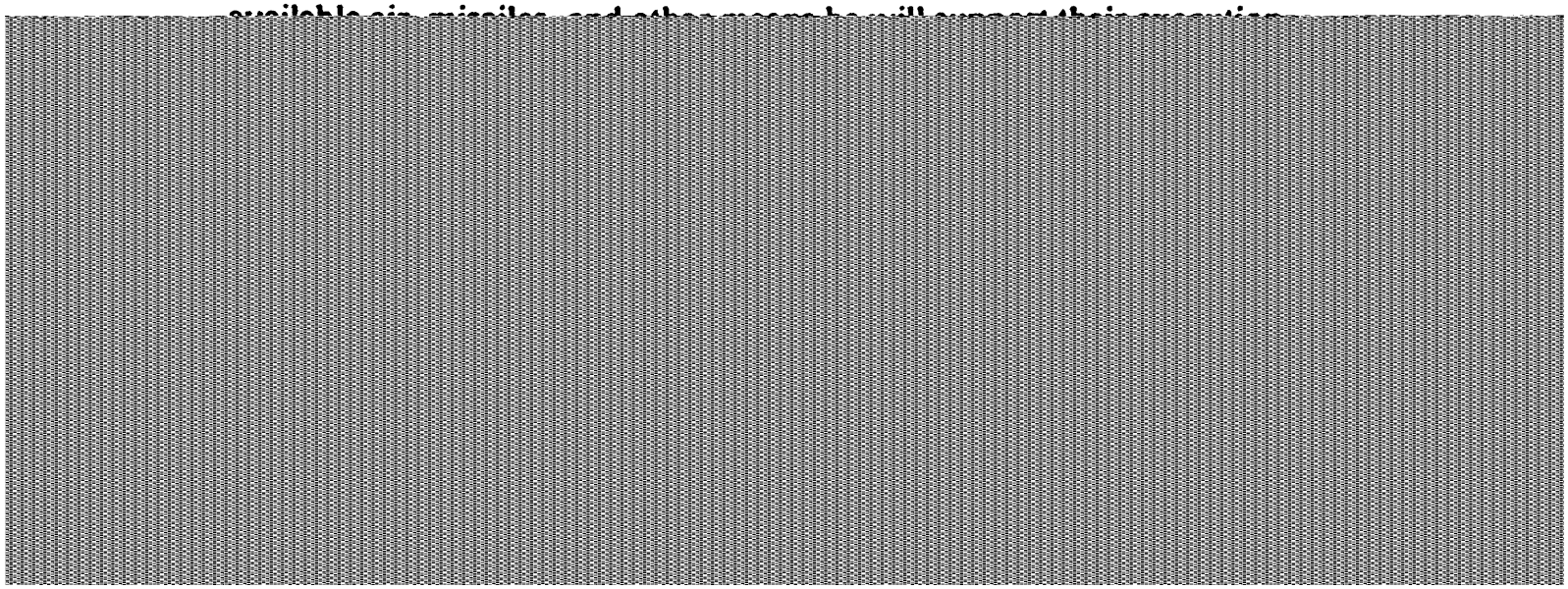
**Joint doctrine sees interdiction as "an action [implying more than air] to divert, disrupt, delay or destroy the enemy's surface military potential before it can be used effectively against friendly forces." Air doctrine, and that of the Marines (see FMFM 1-1, Campaigning, Hqs, U.S. Marine Corps, 25 January 1990, pp. 62-63), focuses on "air" interdiction, which is defined as "air operations conducted to destroy, neutralize, or delay the enemy's military potential before it can be brought to bear effectively at such distance from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not (sic) required." (Joint Pub 1-02, pp. 17 and 187)

all-Korean with little deep capability, it makes good sense for the American combined forces commander responsible for Korea's defense to assign most air and missile attack forward of the FSCL to the U.S.-provided JFACC and his Korean/American air and missile forces.

In an effort, beginning in the mid-1970s, to reconcile Army/Air Force thinking, the Army used "battlefield air interdiction" (BAI) to describe air attack of those targets beyond the FSCL that are of immediate concern to corps and division commanders; the land formation commanders would name BAI targets. While NATO forces adopted that idea, the Air Force never warmed to it; BAI has disappeared from its vocabulary. Because the Marines have insisted on a way, in joint operations, to employ MAGTF fixed-wing air beyond the FSCL, the BAI idea has resurfaced in a new term, the "maneuver targeting zone." That worthy notion, neither picked up nor ruled out in joint doctrinal statements, lies at the heart of the matter.

A joint force commander commanding sizeable maneuver formations can reconcile the views by saying:

> Integrated air/land operations use both the combined arms and air. They take place both deep and close-in and are a seamless web. They call for mission-type orders, teamwork, commanders who have a sure hand on their means, close integration of fires and maneuver, continuous information exchange, and swiftly seizing opportunities for decisive action. I want my major maneuver formation commanders to conduct integrated air/land operations within their boundaries in a "zone of maneuver" beyond the FSCL, to a line set by me. The JFACC will cooperate as these commanders form their concepts of operations; linking his air command and control system with that of maneuver formation commanders, with



ver, and will determine the timing of target attack. The JFACC will ensure deconfliction in that zone and will assist in it short of that zone.

The JFACC will look beyond the zone of maneuver to the effect on the enemy of air and missile attacks when they are combined with special operations, other attack of the enemy's command and control, and deep amphibious and airborne/air assault operations. I will seek his recommendations on my conceptual guidance for that deeper effort, and on occasion will make him responsible for pulling it together.*

In a forcible entry operation, the "zone of maneuver" would be the "forcible entry objective area," defined as:

A geographical area, delineated for purposes of command and control within which is located the objectives to be secured by the forcible entry force. This area must be of sufficient size to ensure accomplishment of the forcible entry task force's mission and must provide sufficient area for conducting the necessary sea, air, and land operations.**

Section 12. Responsive Air Operations

The basic element for applying air capabilities in operations is the mission. A mission can consist of one aircraft (e.g., reconnaissance), two to four aircraft (attacking an enemy tank concentration), aircraft of two or more types (in which the ground attack aircraft are protected by others). It can be a jamming, logistics, or refueling mission, or a combat air patrol. The total of all missions executed over a given time (say twenty-four hours) comprises the air effort for that period and can amount to many hundreds of sorties.

The joint force commander insists on air operations responsive both to him and to his commanders. Fully understanding the principles of air's employment and knowing well what it takes to plan, write, and execute the orders

*The joint force commander could also say, "Joint Pub 3-0 (in some paragraphs of Chapter IV) seems to attempt to reconcile Service views on the deep-through-close battle by allowing each Service some words that support its own outlook, by retaining the language of 'interdiction' (seen principally as 'air interdiction'), by contriving relationships between that and 'maneuver' (both land and sea) that do not seem to fit practical realities in a holistically-viewed battle area, and by unnecessarily introducing the concept of 'supported' and 'supporting' commanders. Those are useful paragraphs, but let's base our discussions primarily on the objective situation that faces us and on the tools we have in hand."

**This is the current definition of an amphibious objective area, with "forcible entry" substituted for "amphibious."

that generate and apply his air effort in twenty-four hour cycles, he tells his JFACC what he wants done and, as necessary, how he wants it done. He makes clear that to require land formation commanders to request air-to-ground missions one-by-one twenty-four hours before the daily cycle is incompatible with his, and their, desired battlefield style. He might say to his assembled commanders something like this:

> Late every afternoon I want my major maneuver formation commanders to send me and the JFACC a "general requirements message" that says how much of the JFACC's air they want in the twenty-four hours beginning, say, 0600 the next day in their zones of maneuver including close air support. I will want to know why they need that air and what kind of targets they expect to strike with it; the latter is essential for ordnance selection, which is not easy to change on short notice. The JFACC, knowing my concept of operations and my priorities, will tell me what he thinks I should do with the air he directs, including how much should go deep and how much should go to each maneuver formation commander. I will tell him and the maneuver commanders my decision. He and they will work out strike planning in their zones, and he will put in the strikes, assisting with deconfliction, and adjusting strikes as requested by maneuver commanders when their changed situations so require.

Issuing his tasking orders about midnight, the JFACC will set up a stream of air support -- armed by good planning with suitable ordnance and surging as needed according to the concept of operations -- to be controlled, and diverted as necessary, by (using Air Force terms) the air operations center, the air support operations center, and air liaison officers responsive to commanders at the front end. Tactical air control parties will put in close air support; the JFACC will put in strikes beyond the fire support coordination line (often with airborne forward air controllers). The tasking order will specify targets only as required, as, for example, when it needs to put together force packages for escort, air defense suppression, and so on.

To get air in unforeseen emergencies or opportunities during the twenty-four hour air tasking order cycle, a maneuver formation commander will send to me and the JFACC, or call us with, a "special requirements message" that describes the emergency or opportunity and asks for air to

meet the situation. The JFACC, knowing the air situation and my concept of operations, will have my authority to respond.*

The nature of the force generation process for air permits execution of surges to meet particular needs. However, to sustain a surge for an extended period, or to generate repeated surges one soon after another, wears down the underlying resources, of air crews and their support in particular.

Those who use air, and those who place requirements on its use (including commanders of land force formations), must keep in mind that timely and accurate forecasts will improve the efficiency with which those always scarce resources can be managed. Forecasts should include not only the type of targets visualized; they should inform the air commander of the time of day and likely location of target groupings. Knowing this, and the land commander's rationale for it, assists the air commander in planning.

Air/land battle commanders, both air and land, must seek ways to acquire up-to-date and accurate target intelligence, to make timely and sound recommendations/decisions on what targets should be attacked, and to ensure that the air mission commander is fully informed about the target he is to attack.

The land formation commander may well, and usually should, define the specific effect to be achieved. This definition may involve a give-and-take process. But there can be only one answer as to who defines the target itself -- the airman. No one else has the combination of technical and operational expertise required to decide the details of what to do and how to do it.

For his own confidence in mission success, the air mission commander must have a target briefing by airmen, in airmen's terms. Defining the target and its surroundings in these terms and conveying that description to the mission commander is the task of the air chain of command.

It is absolutely essential that the air chain of command make the target selection with full understanding of, and responsiveness to, the effect desired by the land, or joint, commander and why that effect is desired.

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*In 1976-78, commanding I Corps (ROK/US) Group, then the field army size formation defending the Western Sector of Korea's Demilitarized Zone, based on a high order of mutual understanding of each others' capabilities, I worked out, and exercised, with the Commander, Air Forces Korea, a system identical to these three paragraphs.

This is a matter of wide-band communication between the appropriate authorities with an interest in the target. The land or joint commander (or his staff) makes clear to the airman the effect desired. "Specific effect" might be in words like these: "You (the airman) and I agree that there seems to be a major enemy armored formation at (location), moving toward (location). Destroy it to the maximum degree possible."

The joint commander is seeking the application of "air aufstragtaktik," in which (1) he and his senior airman are on exactly the same wavelength as to his intent, not simply for the use of air but for the battle as a whole, and (2) his senior airman is in harmony with the other commanders of his force as to the command's way of operating and the specific current command mission, intent, and concept of operations. His JFACC can then use his initative toward the common aim.

This sort of harmony comes from experience in working together as a team under a joint commander who is intent on developing air commanders who understand land (and sea) operations and their dynamics and land (and sea) commanders who likewise understand the joint force application of air.

Section 13. Targeting

The targeting of air is the acid test of such harmony. What to hit depends on how one sees the battlefield; that stems from an intelligence portrayal of what is there and its dynamics. All commanders see intelligence as capabilities and intentions. It is how they use the intelligence that is different.

To an airman, "targeting" connotes not only the full air intelligence process of determining and defining the target in detail; it also means selecting the aircraft (which aircraft and how many) and its (their) munitions load, choosing accompanying penetration assets if any, and determining technical data on the packaging and the delivery -- all determined by the nature of the "target" and its "environment" (e.g., air defense) as gathered by intelligence.

Land commanders (and joint commanders with more than one maneuver formation) see intelligence as more than mere targeting information. They see it also as a way to grasp the enemy's capabilities as they lie out there on the battlefield, and his intentions as well -- and from this to craft a way to defeat him using all means, not only air. To the land (joint) formation commander,

"targeting" means a statement of what he wants hit, what he wants done to it, and when.

For example, to the airman "targeting" a bridge for destruction, the timing of its destruction may not seem important. To the land formation commander, who has in mind destroying that bridge just when it will cause the moving enemy the greatest difficulty, timing is all-important.

If the two authorities, air and land, are ever to harmonize and reconcile their approaches to the battle, the airman must adopt the land commander's way of looking at the dynamics of the battle -- and the land commander must understand how the airman must operate in his own medium, the air.

This kind of air/land/sea harmony had not been built into the forces that went to Desert Storm. Once they arrived in the desert, time was too short to develop it; so they fought without it -- to a successful outcome, to be sure, but with nothing like the proficiency that future joint forces should have.

Because the Army's Warfighter exercises had never involved senior Air Force people working from a simulated air operations center in a rigorous, realistic, and time-sensitive scenario in which air played a decisive role, neither Army nor Air Force two- and three-star commanders and their staffs had gone through BCTP-like experiences in the realities of air target selection and post-strike reporting. Nor had joint training exercises realistically challenged their methods for working together.* To an even greater degree, the same situtation prevailed in Air Force-Navy/Marine Corps pre-Desert Storm development of mutual understanding.

Despite ad hoc solutions in-theater (such as the theater commander's naming his deputy to arbitrate between the land commanders and the theater JFACC), targeting procedures and their products for what land commanders called "shaping the battlefield" were never satisfactory from the land commanders' viewpoints. The Navy in Desert Storm had similar complaints.

*The XVIII Airborne Corps had formed a "Battlefield Coordination Element" made up of Army officers for dispatch to the Ninth Air Force tactical air control center and had deployed the BCE in joint exercises to portray the ground picture and interpret the corps' tactical air requirements, including its target nominations. In the Gulf War, this BCE served Army Forces Central Command (ARCENT) at the JFACC operations center. It could, however, be no substitute for the kind of senior officer mutual undertanding and consequent harmony that is called for here.

Since Desert Storm, unified commanders have sought to improve targeting procedures, testing them in joint exercises. The common solution has been the establishment of a "joint targeting coordination board" (JTCB) to serve the joint force commander and his JFACC. The JTCB reviews target information, develops target guidance and priorities, and prepares joint target lists. Chaired often by the deputy force commander, the board includes key members of the force staff and a senior representative from each "component." From "component" nominations the board develops the Joint Integrated Prioritized Target List (JIPTL). The JIPTL is the basis for the JFACC's development of the Master Attack Plan (MAP), which when fleshed out with munitions and other details turns into mission lines in the air tasking order.

While these processes are a useful start toward solving a problem of extraordinary complexity, they do not ring quite right. A commander who organizes his force along the lines of Section 2 (pages 3-6), as this handbook urges, will not have warfighting "component commands" but "maneuver formations and the fleet" jointly composed (commanded by the same people, to be sure, but with a different outlook). So when he writes his targeting SOP, he substitutes "maneuver formations and the fleet," or "subordinate commands," or some such phrase. In any case, he deletes "components." "By Services" is not how he wants to solve targeting problems, or fight either.

The joint commander seeks a coordination process with participation by those concerned, with give and take, then a decision. A "board" does not convey the kind of swift decision making that should characterize modern joint operations. The joint establishment seems to be using an inappropriate correction for what was perceived (unjustly to a degree) in the Gulf War as arbitrary and unenlightened decisions by an Air Force JFACC and his director of operations, neither of whom (some thought) understood as well as they might have how the other Services fought. Education of the people involved and sustained practice as a team would develop a better solution.

Section 14. Air Defense, Airspace Control, and Intelligence-Command-and-Control

For targeting, the JFACC (and maneuver commanders) will use JSTARS* and more; for directing the air effort he (and they) will use a (four-Service) air

*The E-8A joint surveillance and target acquisition aircraft.

control system with nodes and links throughout the battlespace. The JFACC, who will likely be the air defense and airspace control authority, will for those two related functions use the AWACS and the fleet's Aegis in another linked array of all-Service nodes and communications, overlapping the air control system and sharing its data.

Maneuver formation commanders will employ a multisystem complex of linked and matrixed nodes and communications of their own; they need access to an even broader operations/intelligence, and logistics, data base. For swift readout and decisive action in a coordinated direction of the harmonious joint/combined effort, they and their "systems authorities" (page 4) need an intelligence-command-and-control* system that ties together the matrixed hierarchical array of interlocking systems in page 4's figure.

But forces come with electronic gear built by the Services; much if not most of it was not designed from the outset for jointness; the joint commander must find a way to make it all work together in his force's one system. His solution is free and open information flow.

In 1980, in a landmark paper for The Mitre Corporation called "Ideas on the Future of JTIDS," W. Gordon Welchman made a powerful argument for a system of free and open information flow, writing...

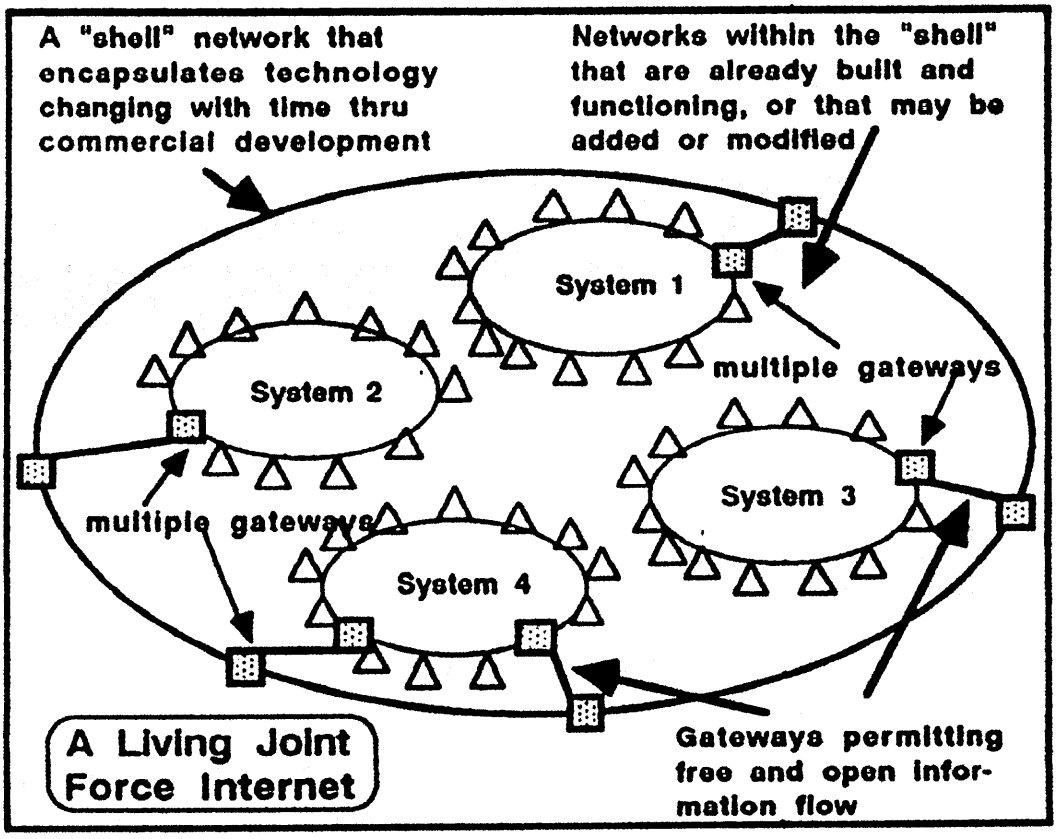
> Each branch of the services likes to manage its own affairs by means of its own communications, which run up and down its chain of command. Organizing information flow in this manner causes delays and distortion. It makes it virtually impossible to achieve near-real-time coordination of combat elements of different services. Yet such coordination lies at the heart of combined arms operations. It was the secret of German successes (in 1940 and later)...
>
> Few if any people realize what the Germans had developed. It was a large, well-exercised signals organization trained to operate an extremely flexible system based on interlocking radio nets. They used the high frequency range, which permitted long-distance transmission, and morse code, which demanded little bandwidth. The mobile parts of the system were virtually nodeless, in that a net could be controlled by any member station. Individual stations that had to move to new locations

*A term borrowed from Harvard University's Program on Information Resources Policy.

could quickly rejoin the net. There were flexible arrangements for gateways between nets. The overall system provided excellent connectivity...

If one single idea dominated the Germans' planning for blitzkreig it was... "speed of attack through speed of communications." Thus they were able to take advantage of the rapid changes and opportunities that armored warfare brings.

Command and control of today's multiservice forces is far more complex than it was for the Germans in 1940. Yet modern network technology permits the application of the very principle that activated the German blitzkrieg fifty years ago: free and open information flow. It was the key to German use of auftragstaktik. The joint commander should fight for it. He will need his unified commander's help to get it; and -- in the classic user-provider relationship -- he (the "user") will need some provider-style support. Call it the Living Joint Force Internet, shown here.



It is "living" because it will be "evolutionary in place" -- operating day-in-and-day-out, out there where the forces are, adding new features as they are proven. It is "internet" because it uses the ever-advancing, mostly commercially developed, technology of the integrated tactical data network (ITDN) ar-

chitecture* to link in a single joint force system virtually any part desired of the full range of existing tactical communications systems.

ITDN technology is the "shell" in the figure. System 1 could be JTIDS -- the time-division multiple-access Joint Tactical Information Distribution System for all-Service air defense. System 2 might be ATCCS (the Army's Tactical Command and Control System) and System 3 the Navy's Tactical Distribution System (NTDS) serving most naval warfare areas. To illustrate that a joint task force system must link with higher echelon systems in theater and Stateside, let's call System 4 JOTS (Joint Operational Tactical System) combined with a system known as JVIDS (Joint Visually Integrated Display System); JOTS/JVIDS is now serving theater CINCs and the JCS.

Taking advantage of packet-switched and multiple-security-level technology that allows building the "shell" into which these and other systems can be ingeniously tied together, a joint commander can have all-Service free and open information flow within his force -- and outside it as far as he needs.

This is already beginning to happen in a program called C4I for the Warrior,** launched in 1992 by the Chairman, Joint Chiefs of Staff. From the JCS Chairman's introduction: "The C4I for the Warrior concept will give the battlefield commander access to all information needed to win the war and will provide the information when, where, and how the commander wants it... [The joint program] provides a roadmap to reach the objective of a seamless, secure, interoperable global C4I network for the Warrior."

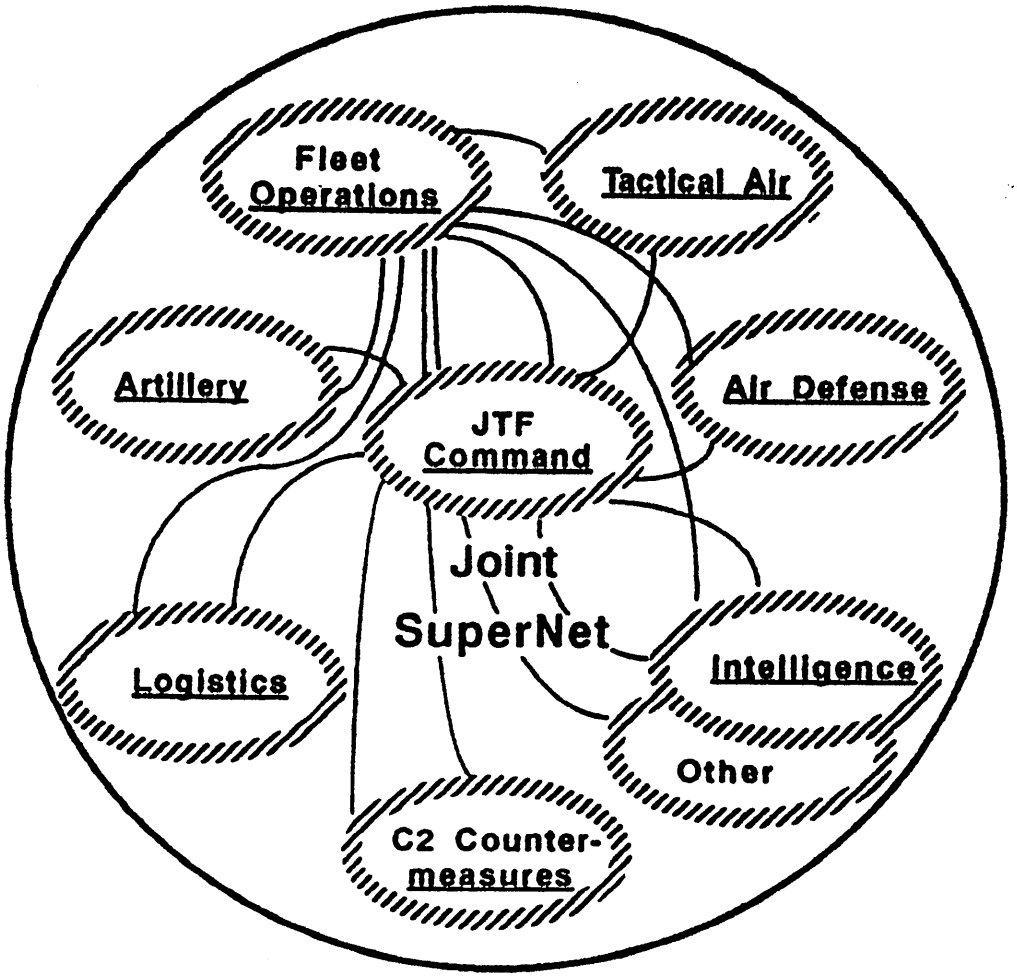
C4I for the Warrior can create for a joint force a Joint SuperNet*** for free and open information flow, thereby providing the essential ingredient for auftragstaktik and permitting the commander's all-Service forces to fight as a true team. The Joint SuperNet network-of-networks might look like the figure, next page.

The notional Joint SuperNet is a "virtual" network-of-networks, each a supernet of its own. ("Virtual" because it is ingeniously built so that it behaves like a network of networks; links of only two subnets are shown). Unlike cur-

*See the Defense Intelligence Agency's Integrated Tactical Data Network (ITDN) Demonstration Final Report, 13 June 1990; also "Integrated Data Networking Enhances Tactical Operations," by Ronald Elliott and Varda Haimo, Signal, September 1990, p. 96.

**C4I stands for "command, control, communications, computers, and intelligence."

***The Joint SuperNet resembles what C4I for the Warrior calls the "warrior's battlespace."



rent voice nets, where a dozen stations may be too many, a supernet permits hundreds of stations to share information either by getting information automatically or by asking for it. Such a supernet fosters free and open information flow, meaning that the movement of information among all elements of the force and its support, regardless of function or Service, is open, free, and unrestrained by any concern other than effectiveness in the common mission and keeping our information from the enemy. Features of the Joint SuperNet concept:

- o Each battle participant has access to a continuously updated "bulletin board in the sky," with each item posted directly by whoever is in the best position to know.* (For example, the location of an ammunition supply point is posted by the unit that establishes it, as it opens.)

- o Through access to his own and any other net, each battle participant quickly receives information that is germane to his situation. What he sees at any moment is consistent what anyone else who tunes in sees.

*C4I for the Warrior calls this "OTAU" for "over-the-air-updating."

- o With minimum restrictions, any battle participant gets the information he wants simply by tuning for it. For some information (a brigade intelligence officer receiving all that comes over his intelligence net), he is always "tuned in." For other (a repair ship skipper seeking details of a destroyer's engine casualty), he tunes in as he needs it.

Good commanders trained as a team will know what information they need and will go for it, solving for themselves problems of information overload. The result: each battle participant has as accurate, timely, complete, and easy-to-understand portrayal as it is possible to achieve of that part of the full battle picture that is germane to his situation. All portrayals are consistent.

A brigade/regiment voice radio command net is an example of free and open information flow among a small group; everyone on the net hears everyone else and acts accordingly -- auftragstaktik. The Joint SuperNet allows the same in an entire joint force. But people will have to get used to using data, text, and graphics for most force intelligence-command-and-control.

A Joint SuperNet thus ties together the functions of joint warfare as shown in the figure, page 4, regardless of Service. Through C4I for the Warrior, it gives the joint force systems authorities global access if they need it.

Whether or not any joint commander accepts this description of a Joint SuperNet, each one needs a system like it. One way to get the system faster is for a unified commander to have within his command a joint task force that serves as an "operational test bed" -- emphasizing operational -- for a Living Joint Force Internet in a program of "command and control systems evolution in place."* Key features:

- o A fairly stable set of all-Service forces in a joint chain of command (like JTF West, page 13) that uses the system often in actual and computer-supported exercises under the concept "build a little, test a little." They adopt what works, building the system as its pieces fit it in.

- o A small operational requirements cell located with that joint force as it exercises, observing it, working with it. Alongside that would be a technical requirements cell, because the unified commander wants to in-

*C4I for the Warrior is testing, in the provider establishment, such technical features as a Secure Tactical Data Network. There is no continuing joint force to exercise the concept.

fluence how his needs are met; as "user" he does not accept a provider's saying "just tell me what you need."

- o A joint program office, adequately funded and responsive at a high level to an authority in DoD, that has a small liaison team on site. The program manager's instructions are to cut through the bureaucratic processes and give the commander what he wants, fast. Backing up the program manager is a systems integrating contractor.

- o A user's concept first, then some equipment alongside the troops, and then a short list of important things to do. Example: "Give me an intelligence system network in which commanders to brigade and regimental level can get intelligence spot reports and estimates, from whatever parties they choose, as soon as these are generated."

This living test bed recognizes that in the user-provider relationship, the Services are not the users, joint forces are. It will place the unified commander in the driver's seat as establisher of high priority user requirements, backed up by a technical provider who has funding flexibility and is working with his joint force commander to find more effective ways of operating for the full gamut of air, air defense, airspace control, intelligence, logistics, the fleet, land maneuver formations and all the rest. His also will be a strong voice to keep the provider establishment from building a system that suits "global" needs but fails to take into account what the troops need.

Under the Unified Command Plan being developed in mid-1993, the Commander in Chief, U.S. Atlantic Command, will become the joint trainer, tactics developer, and doctrine tester of all forces based in the continental United States. While any joint command would be free to experiment with ways to improve its command and control, Atlantic Command would have the one "test bed." Vignettes to show how it would work:

- o In the air leaving the command post of the 82d Airborne Division, the Commander JTF West wants to visit the command post of the 5th Marine Expeditionary Brigade. Where is that command post? On the screen mounted in the commander's helicopter, his aide calls up the formatted "situation status" of the 5th MEB as posted by the 5th MEB whenever any item changes; it shows "main command post location" as USS Wasp and Wasp's location. It also shows 5th MEB's latest spot report.

The aide calls up the last few spot reports. The commander reads them. No radio call is unnecessary.

o The G-2 (Intelligence) officer, 101st Airborne Division, reads JSTARS reports off the JTF West intelligence supernet as they are generated; he combines those with OH-58 and Apache sensor reports. A LantCom Joint Intelligence Center (JIC) broadcast on the same net tells him of radio traffic in an enemy armor formation fifteen miles forward of Line Steel. The 5th MEB under 101st opcon is reading the same reports. A consensus builds; division decides to hit this target hard with air.

o At the JFACC air control center, intelligence and operations have been monitoring; when the air request arrives the operations cell uses the current air status screen to plan emergency air for 101st Airborne Division control. Lieutenant Bill McGee, USN, F/A-18 pilot from USS America is leading a flight of four; he was to contact Saber 95, a tactical air control party with the 82d Airborne Division. An AWACS gets the JFACC plan, diverts McGee to the 101st's air liaison officer (Dandy 29) and briefs him on enemy air defenses; the 82d's ALO sees this traffic. McGee calls Dandy 29, receives the target briefing and delivers ordnance on target. All concerned read the same data.

o Marine helicopters lifting battalions from USS Wasp into amphibious assault on the Critico beach and port need refueling. Wasp's decks are busy. The mission commander asks his screen, "Where is the nearest FARRP (forward area rearm/refuel point)?" It displays one location in the 101st Airborne Division, another in the 82d, each with its current fuel status. Another display shows reported enemy locations en route. He refuels at both FARRPs and returns to action.

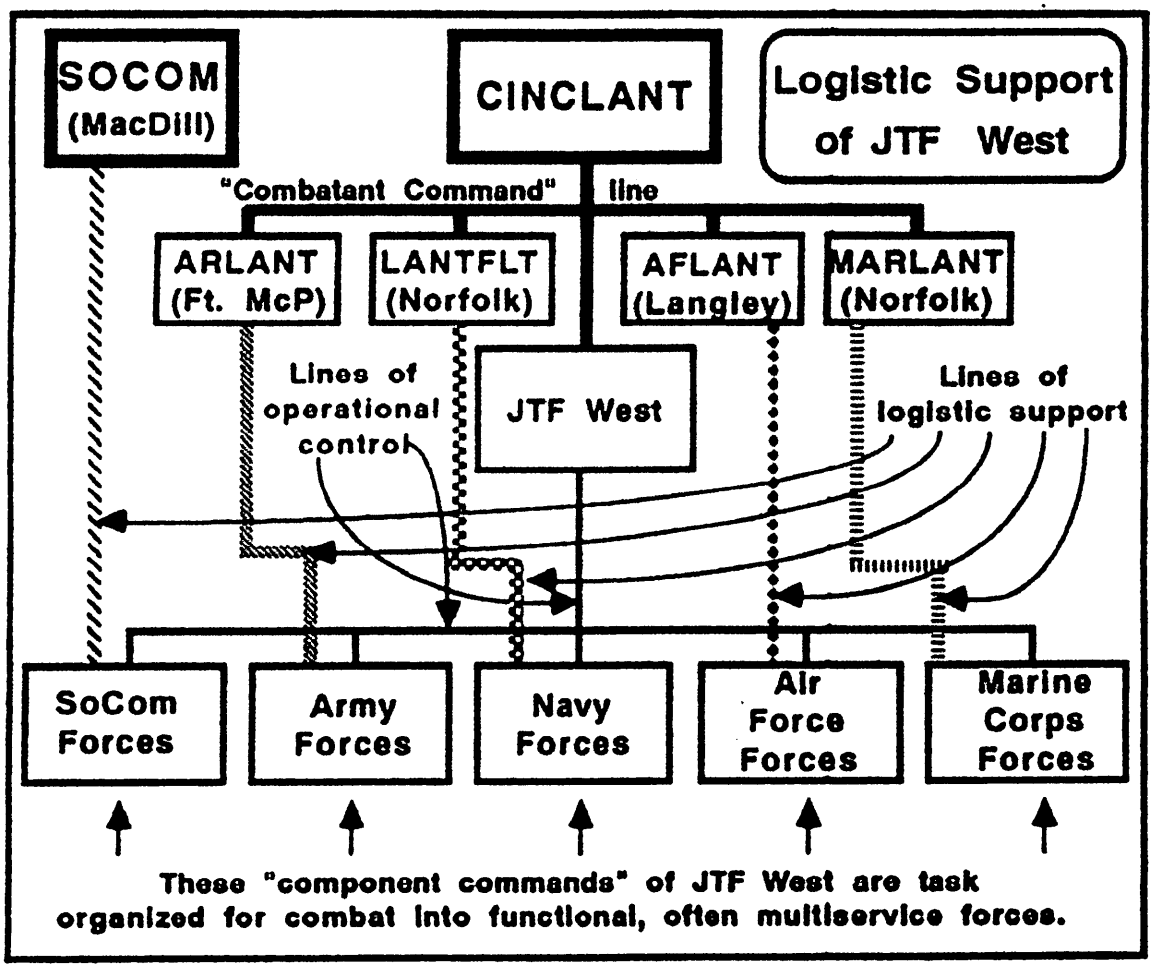
o An AWACS alerts the ABMOC (air battle management operations center) of an Army corps' Hawk battalion and the TAOC (tactical air operations center) of the MEB's Marine Air Group 22 that two MiG-23s, having avoided intensive air attack, are headed at low level toward the zone of the 5th Marine Expeditionary Brigade on right of the 101st's 2d Brigade. The ABMOC alerts the 101st's air defense battalion, which passes the word to Stinger teams of the 1/502 Infantry Battalion. MAG-22's TAOC alerts its Hawks and Stingers. A Marine Stinger shoots down one MiG, an Army Stinger the other.

Section 15. Logistics

None of what has been described to this point will happen without what Joint Publication 1-02 calls "combat service support... the assistance provided operating forces primarily in the fields of administrative services, chaplain services, civil affairs, finance, legal service, health services, military police, supply, maintenance, transportation, construction, troop construction, acquisition and disposal of real property, facilities engineering, topographic and geodetic engineering functions, food service, graves registration, laundry, dry cleaning, bath, property disposal, and other logistic services."

Because it deals little with personnel matters, this section will use the terms "logistic support" and "logistics"* rather than "combat service support."

"Logistics," it is said, "is a Service responsibility." For the notional Joint Task Force West, the figure below shows what that means.



*Logistics... the science of planning and carrying out the movement and maintenance of forces." Joint Pub 1-02, p. 211.

Logistic support comes to the forces of JTF West through four Service "component" channels and, for the unique materiel of the special operations component, from the U.S. Special Operations Command.* Yet mission accomplishment by those forces, which may not be fighting by component, is the responsibiity of the joint task force commander. While his is only the operational control channel, he must have something to say about logistics.

What operational forces need to sustain their operations is described in terms of items and of tonnage. Food, fuel, and ammunition have relatively few items, but large tonnage. Repair parts and medical supplies amount to relatively small tonnage, but there are many items. At its root, logistics is a matter of movement, information, and stock control of both items and tonnage. Movement entails directing and coordinating the means of loading, transport, and unloading. Movement managers need to know where movement means are and what they can carry, and where the stocks (and also the troops) to be moved are -- in detail and in real time.

If the movement of stocks is rapid and efficient, and if the information on stock levels and item location is accurate, then the size of stocks, in items and in tonnage, can be minimized at the intermediate locations between the producing establishment and the consumers and effort at stacking and storing can be saved. However, if items are in a forward area but their locations are not known, the supplies are essentially useless; special transportation and other effort must then be applied to bring items from far in the rear to where they already are. (In the mid-1960s buildup of U.S. Army logistics in Vietnam, great quantities of supplies were on hand in "conex" shipping containers in Vietnam, but their locations were not known. Emergency measures were taken to ship by air the same stocks, often one item at a time, from the United States.)

Such equations -- of movement and stock levels, of items and tonnages, of information and management -- are the basic stuff of the art and science of lo-

*The component commanders of U.S. Atlantic Command (its headquarters at Norfolk, VA) are: Commander in Chief, Forces Command (Army), at Fort McPherson, GA; Commander in Chief, Atlantic Fleet (Navy) and the Commander, Marine Corps Forces Atlantic (Marine Corps), at Norfolk; and the Commander, Air Combat Command (Air Force), at Langley Air Force Base, VA. These four are the agents of their Services for providing forces to the fictional JTF West and sustaining them. The special operations component commander is the Commander, Special Operations Command Atlantic, at Norfolk, supported by the U.S. Special Operations Command (headquarters at MacDill Air Force Base, FL).

gistics. Mastery of such equations is to be sought by logisticians. And logisticians who have mastered not only the equations but how to make them work superlatively in practice are to be sought by commanders.

A unified commander exercises Combatant Command, defined by Joint Pub 1-02 as the "non-transferable command authority established by title 10, United States Code, section 164," which says that "with respect to the commands and forces assigned" this command authority "includes the command functions of... all aspects of military operations, joint training, and logistics... prescribing the chain of command... organizing commands and forces... employing forces... (and) coordinating and approving... administrative support (including control of resources and equipment, internal organization, and training) and discipline..."

A joint task force commander has "operational control," which Joint Pub 1-02 defines as "transferable command authority which may be exercised by commanders at any echelon at or below the level of combatant command... (It) includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command... (It) does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training (emphasis supplied)."

Unified commanders hold joint task force commanders responsible for mission accomplishment; they have no choice but to use their ample authority to give them authoritative direction for logistics (as well as, to some degree, for "administration, discipline, internal organization, [and] unit training").

The Services see logistics as their responsibility for good reason. A detailed system linkage, for example, connects the medical aid station of a battalion in contact back to military hospitals in the United States. This system is separate from the one that links the ammunition in that battalion's combat trains all the way to an ammunition plant in Illinois. And both of these are separate from the system that links a refinery in Venezuela through a tanker route to the aviation fuel supply at a forward air base.

A joint task force commander cannot manage systems like these even in his own area of operations. He must depend on a Service chain to replace an Air Force radar, repair a ship's engine, or deliver the artillery's proper fuze mix.

But he must be involved in what is needed, how much, where to place it, and what the risks are if what is needed is not provided. He will be forced to establish priorities, to take assets from one and give to another, to set usage controls on ammunition, to exercise movement control.

He may find little infrastructure in his area. His real estate acquisition may start from zero; ports, airfields, and roads may be limited. After entry of the first forces, follow-on stocks and services come ashore; forces soon stretch their self-supported lines of communication. It becomes necessary to regulate logistics flow into ports and airfields, assign real estate, control fuel and ammunition stocks, medical services, and transportation, and to coordinate access to the local labor supply. Civil affairs become important.

It is therefore essential that the joint task force commander have available a joint authority to plan, coordinate, control, and direct his force's logistic support in functions that he designates -- real estate, common fuel, common ammunition, transportation, movements control, civil affairs, construction, port operations, airfield operations and air movement flow, hospitalization and evacuation, and military police. This task is too much for the joint task force staff logistician (J-4) to perform. In the Gulf, the unified commander made the Army's in-theater logistician responsible for these matters. Every joint task force commander needs to be able to do the same by double-hatting the commander of a Service logistics organization already in his force.

Toward his fundamental obligation, mission accomplishment, the joint commander's logistics task is to understand logistics and to influence logistics toward his ends. He must be an astute judge of the logistics risks; it takes not only that (no small accomplishment) but a certain strength of character for a commander to make an estimate that overrides the one made by his own logistician. But he must have that logistic good judgment and strength of character; otherwise he becomes the prisoner of his logistician.

There is a mutual obligation between the troops and the logistician. The logistician's obligation is to deliver what the troops need, anticipating so that what they need is there when needed. The troops' obligation is to use wisely and well what the logistician brings forward -- to plan intelligently, to ask for no more than they need (within a reasonable margin), to use what they get efficiently, to conserve, to preserve, and not to waste. Battle being what it is, this can become very difficult.

Joint task force commanders are responsible to see that both parties meet their obligations. While recognizing that the Services do most of the work, they must have standing authority over logistics.

Section 16. Concluding Thoughts

The Services swear their people in, put them in a distinctive uniform, train them, indoctrinate them, assign them, promote them, discharge them, whatever their rank, when the time comes, and, if survivor assistance is provided when they die, the Services provide that. They have a hold on their members that no unified command or joint task force can match.

Developing materiel, organizations, doctrines, and leaders, the Services are today building forces of unprecedented quality. But they will not employ those forces; joint commanders will, often encountering as they do Service commanders who have strongly held ideas of their own. A joint commander must bring two qualities to his task. One is an acute sense of mission. The other is objectivity reflecting broad multiservice professional competence. The latter leads him to correct decisions. The former gives him the moral authority, over and above his charter, to have his way once he has decided.

Objective joint professionalism will be in even more demand as the 1990's test the American military's ability to accommodate to unusual arrangements for multinational command, or for common action in the absence of command, in situations where the direction of operations will not be nearly so clear-cut a matter as is drawn in the chart on page 6. Only in NATO and Korea will arrangements be in place or readily adaptable.

NATO's backdrop was valuable in Provide Comfort, but there, as in Desert Storm, structures for common action were built on short notice. A U.S.-only joint force will often, if not usually, provide the framework for other nations' forces to join. But that force may well be a hasty adaptation of an existing Service headquarters and some of its units (in Somalia, it was the I Marine Expeditionary Force, whose commander developed his all-Service structure as he, with staff, traveled to the scene from California by way of the Pentagon and CentCom's headquarters in Florida).

Political and strategic direction to the multinational force will likely be the ambiguous product of negotiation and compromise, augmented for its U.S. commander by guidance from his U.S.-only chain of command and perhaps

Authorities at each nation's seat of government will be giving their own instructions to their national forces, thereby complicating operational and tactical direction by the field commander, who must work out, probably on his own, ways to weave together the myriad and diverse national contributions in a common effort. (Provide Comfort and Restore Hope after-action reports tell how this can be done successfully; anyone interested in preparing for like challenges should study them.)

Agreement on the multinational force's basic objectives is the bedrock requirement; this may not, however, produce a clear statement of the desired operational end-conditions. In that case, the commander considers his guidance, makes his own assessment of the situation, and formulates the desired end-condtions in the necessary detail. He communicates these to his superiors and to his colleagues on the ground, directs operations accordingly, and revises them as the situation and his instructions change.

The multinational commander need not seek a written command charter over forces of other nations. Rather, he should establish a clear understanding with each senior national military authority that he is in charge, that he will always clear with that national authority the broad substance of instructions that he intends to issue that contingent, and that he expects his instructions to be carried out. Since national contingents are usually from among the best of each nation's armed forces, simple soldier-to-soldier talk will usually suffice.*

Of course, the U.S. commander must take pains not to offend. He must evidence a genuine empathy for national sensitivities and pride, leading by understanding persuasion, sound thinking, and the moral authority that comes with his mission responsibility. When his judgments make sense, his demeanor is soldierly yet insistent, his concern for the troops' well-being is evident, and his dedication to success in the common cause is manifest, his difficulties with other nations leaders and their troops will be few. The commander's mastery of jointness will serve him well multinationally.

But the chain of direction of other nations' forces is inherently fragile. Casualties, a failure here or there, personalities, and the trauma common to war will

*In Provide Comfort, General Shalikashvili made known his expectation that each national contingent would operate under his "tacon" (the well-known NATO term for tactical control). Should that not be agreed to, he would not accept the contingent's participation.

subject it to stress. The commander cannot impose discipline, nor sanctions for inadequate performance. A steady hand, robust liaison, and adept use of team-building techniques is called for.*

Although like qualities are required when the multinational commander is other than American and the U.S. contingent is under his direction -- as in a deployment under the authority of the United Nations -- the problem is quite different. Here, the U.S. contingent's commander will very likely be double-hatted as deputy commander of the U.N. force and a sizeable part of the U.N. force's staff will be Americans. An even more acute combination of sensitivity, directness, insight, and the ability to cope with frustration will be required as these Americans, without wanting to be seen as taking over, seek to bring to bear their best judgment.

For the near-term future any U.S. joint force will probably be a single Service formation with an augmented staff and add-on formations from other Services. Although, as for Just Cause, it is valuable to do so, rarely will the force have practiced as built; its commanders may meet for the first time on the eve of their commitment; their plans may be far from anything on the books. May their preparation stand them in good stead when operations unfold and when critics who learn of the operations in real time and in living color begin to tell the public what they think is being done wrong. Time will tell if the joint force commander did it right or not; but he will have only one chance. It would be well for the key people involved to have done some hard thinking of their own ahead of time; thus this book.

* * * * *

One final note of caution. The Pearl Harbor Congressional Joint Committee's principle XVII reads: <u>There is great danger of being blinded by the self-evident</u>. In the 1950s the full U.S. military establishment oriented on nuclear war; a decade later it was coping, inadequately as it turned out, with something entirely different in Vietnam. Possibly this pamphlet, in assuming that today's conventional wisdom on conditions to be encountered by the American military, and their solutions, is correct, contributes to not seeing something that we should be seeing, thus not preparing as we should be preparing. The 1994 edition will examine that idea.

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*See Chapter VI, Multinational Operations, of Joint Pub 3-0, for useful guidance.

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