Command and Control of Theater Forces: The Future of Force Projection

John H. Cushman

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John H. Cushman
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Lieutenant General John H. Cushman, U.S. Army, Retired, served in a variety of positions, including in Vietnam in the 1960s and 1970s and later in Korea, among others, until his retirement in 1978. He is now a writer and consultant on theater forces command and control and warfare simulation.

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Foreword

This paper is sponsored jointly by the Program on Information Resources Policy (PIRP), Harvard University, and the Command and Control Research Program (CCRP), National Defense University. In 1990, the CCRP sponsored the development of a scenario to support a practical exercise for the Joint C3 Staff Officer Course of the Armed Forces Staff College. Development of this scenario raised interesting issues in force projection operations. Meanwhile, Desert Shield and Desert Storm have taken place. Joining with the Program on Information Resources Policy, and using the PIRP's review process, the CCRP sponsored this follow-on paper on force projection, incorporating lessons learned from Desert Shield/Desert Storm.

The Program on Information Resources Policy is a joint endeavor of Harvard University and the Center for Information Policy Research. Its scope is "information resources" as broadly defined in today's "information age." PIRP papers aim to shed light on problems in information resources policy and management, including occasional treatment of military command and control. The PIRP is supported by contributors from the United States' and other nations' business and industry, foundations, and government agencies. The author is a research affiliate of the PIRP.

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PIRP papers do not recommend solutions to problems. Rather, they aim impartially to describe the problems, to lay out options for solution, and to develop the implications of those options—leaving solutions to the readers.

Previous papers by the author:

> *Command and Control of Theater Forces: Adequacy* published in 1983 by the Program on Information Resources Policy, Harvard University, and in 1985 by AFCEA International Press (Armed Forces Communications-Electronics Association).
>
> *Command and Control of Theater Forces: The Korea Command and Other Cases* published in 1986 by the Program on Information Resources Policy, Harvard University.

Command and Control of Theater Forces: Issues in Mideast Coalition Command published in 1991 by the Program on Information Resources Policy, Harvard University.

Summary

On the day, August 2, 1990, that Iraq invaded Kuwait, President Bush was at the Aspen Institute in Colorado, hailing both the end of a divided Europe and the Cold War's drawing to a close, but saying that nonetheless "...prudence demands that we maintain an effective [strategic nuclear and defensive] deterrent" and that "...the US will keep a force in Europe as long as our allies want and need us there." The President then devoted two-thirds of his address to one central thesis:

> *"...the world remains a dangerous place with serious threats to important US interests..." and "Outside of Europe,* ***America must possess forces able to respond to threats in whatever corner of the globe they may occur."***

He described these forces as:

> *"[forces]...in existence [and] ready to act...[with] speed and agility..." "forces that give us global reach..." troops that are "well-trained, tried, and tested—ready to perform every mission we ask of them..." "a new emphasis on flexibility and versatility..." "...readiness must be our highest priority."*[1]

This paper calls such forces "forces for force projection" and addresses their current status and their future. It says that force projection requires both suitable forces and, for those forces, highly effective command and control, broadly defined as more than simply communications. The first can be seen as the "muscles" of the forces; the second can be viewed as their "nerves."[2] The very best in both should be the goal.

As events turned out, Desert Shield/Desert Storm—a classic case of force projection—was superior both in its muscles and in its nerves. But that operation was unique, notably (1) in the generous time available for training and preparation before fighting began, and (2) in that Saudi Arabia provided a fully developed base, with a ready-to-use infrastructure of airfields, ports, roads, and pipelines. Neither can be guaranteed in the future. For the full range of possible contingencies, the readiness of US force projection forces is today well below that which the President called for at Aspen.

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[1] *Report of the Secretary of Defense to the President, January 1991* (US Government Printing Office, Washington) Appendix E, Remarks prepared for delivery by President George Bush to the Aspen (Colorado) Institute Symposium, August 2, 1990. (emphasis supplied)

[2] This metaphor has long been used at the Program on Information Resources Policy.

Especially lacking would be the high order of proficiency, operational teamwork, command and control system development, and joint command and control expertise which troops in the Gulf War displayed after working on these matters for months. Force projection forces now and in years to come must have developed these qualities before the crisis arises.

Using a generic force projection scenario, **Chapter I** (pages 15-23) makes the point that command and control of force projection forces today leaves much to be desired.

Chapter II (pages 25–34) lays out options for decision-making on the size and composition of future force projection forces including their command and control. A key issue is the degree and manner in which the Chairman, Joint Chiefs of Staff, his JCS colleagues, and the Joint Staff influence through their objective military thought and analysis decisions on force makeup and on the doctrines for their employment.

Chapter III (pages 35–65) shows how, In force projection, we are where we are through the lengthy evolution of each Services' forces and of joint institutions. Decisions made in the present must take into account decisions made, and not made, in the past.

Using a second scenario, **Chapter IV** (pages 67–90) raises issues of organization and employment, including the command and control, of force projection forces. It makes a case for developing joint doctrine for "forcible entry"[3] operations. It says that in the future forcible entry operations above reinforced battalion size will rarely be amphibious-only[4] (where joint doctrine is plentiful); that they will occasionally be airborne[5]/airlanded only (where joint doctrine is weak); but that they are far more likely to be a combination of amphibious and airborne/airlanded operations under single command (where joint doctrine barely exists).

Chapter V (pages 91–104) sets forth two basic issues for the future and concludes with a "2,002 AD" force projection scenario in which these issues are

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[3]forcible entry—Military lodgment by air, land, and/or maritime forces in the face of armed opposition. (From the draft "Test Pub" of Joint Publication 3-0, *Doctrine for Unified and Joint Operations,"* January 1990.) By late summer 1991 this definition should be appearing in an approved Joint Pub.

[4]amphibious operation—An attack launched from the sea by naval and landing forces, embarked in ships or craft involving a landing on a hostile shore. Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Office of the Chairman, JCS, Washington, 1 Dec. 1989) p. 27. (emphasis supplied)

[5]airborne operation—An operation involving the air movement into an objective area of combat forces and their logistic support for execution of a tactical or a strategic mission. The means employed may be any combination of airborne units, air transportable units, and types of transport aircraft, depending on the mission and the overall situation. Ibid. p. 11. (emphasis supplied)

shown as resolved.

Force projection forces can benefit in major ways from the exploitation of technology, especially that of aviation, munitions, intelligence, computers/ communications, transport, and logistics. Toward their orderly harmonization, Service and the US Special Operations Command programs for materiel development require conceptual/doctrinal guidance; development of such is a function which the Chairman, JCS, supported by the Joint Staff, by law performs for the Secretary of Defense.

This paper does not address issues of coalition operations, notwithstanding that in the future such operations will likely be the rule. Each coalition operation is a case in itself and, as the Gulf War demonstrated, a US commander's solution to coalition warfare's problems is made far easier when the US-only command and operating arrangements are rational, clear, and relatively simple and the US forces are highly competent. Such, for US-only operations, is the aim of this paper.

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On Definitions

This paper aims at exposition, not doctrine; its intent is descriptive, not prescriptive. It uses a mixture of terms—old, new, and variations which may describe old ideas in a new way.

Take "force projection." Undefined as yet in the joint dictionary,[1] to some this might mean simply air and missile strikes on land from distant bases or the fleet at sea. In this paper, force projection means that and more. Keying on the President's Aspen address, and leaving out strategic nuclear operations and war in Europe's Central Region, force projection here includes everything from a boat launched from a submarine off some distant shore with a SEAL[2] team whose mission is to pick up a covert agent on the beach, to a precision F-117 strike or an AWACS deployment somewhere in the Third World, to an operation the size of Desert Storm; it encompasses the marshaling and movement of forces and their operational action. Multiservice/all-Service operations are the focus.

Take "theater forces." This paper says that theater forces are those (space supported) air, sea, and air/land forces that fight theater warfare, which is often, and was in the Gulf, an intricate amalgam of sea, air, and air/land[3] warfare. In principle, land-based air forces can engage in each form of warfare (such as close air support in air/land warfare, and air reconnaissance in sea warfare). Sea-based forces can likewise engage in all three (close air support and amphibious operations in air/land warfare, offensive counter air in air warfare). Land forces can do the same (air defense missile batteries in air warfare; forcible entry airborne seizure of an advanced fleet base in sea warfare).

Some might use terms like "continental" warfare, or "maritime" warfare, or "littoral" warfare.[4] Theater warfare suits this paper as including each of these and as more applicable to the full range of all-Service operations. (The Gulf war was clearly theater warfare, yet can be seen as including all three.) A task force carrying out an Army/Marine airborne/amphibious assault supported by land-based and carrier air would be theater warfare in microcosm; the British 1982 Falklands operation, as the US might do such an operation in the 1990s, is an example.

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[1]Joint Pub 1-02, op cit.

[2]Explanations of abbreviations and acronyms are at Appendix A.

[3]This generic use of "air/land" should not be taken for the US Army's doctrinal term, AirLand.

[4]Like "theater warfare," none of these yet has a joint definition and their main use is in papers like this one. In "Blue-Green is a Primary Color" (Naval Institute *Proceedings*, April 1991, p. 59), Colonel W.C. Gregson, USMC, sees littoral warfare extending "as much as... 600 miles ashore."

Take "command and control" (abbreviated as "C2") The joint dictionary defines this as "The exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of the mission."[5] But the command and control problem of an operational commander is more complicated than those words imply. He always has more forces to think about than those simply "assigned." Examine the all-Service force and its support shown in **Figure 1**.

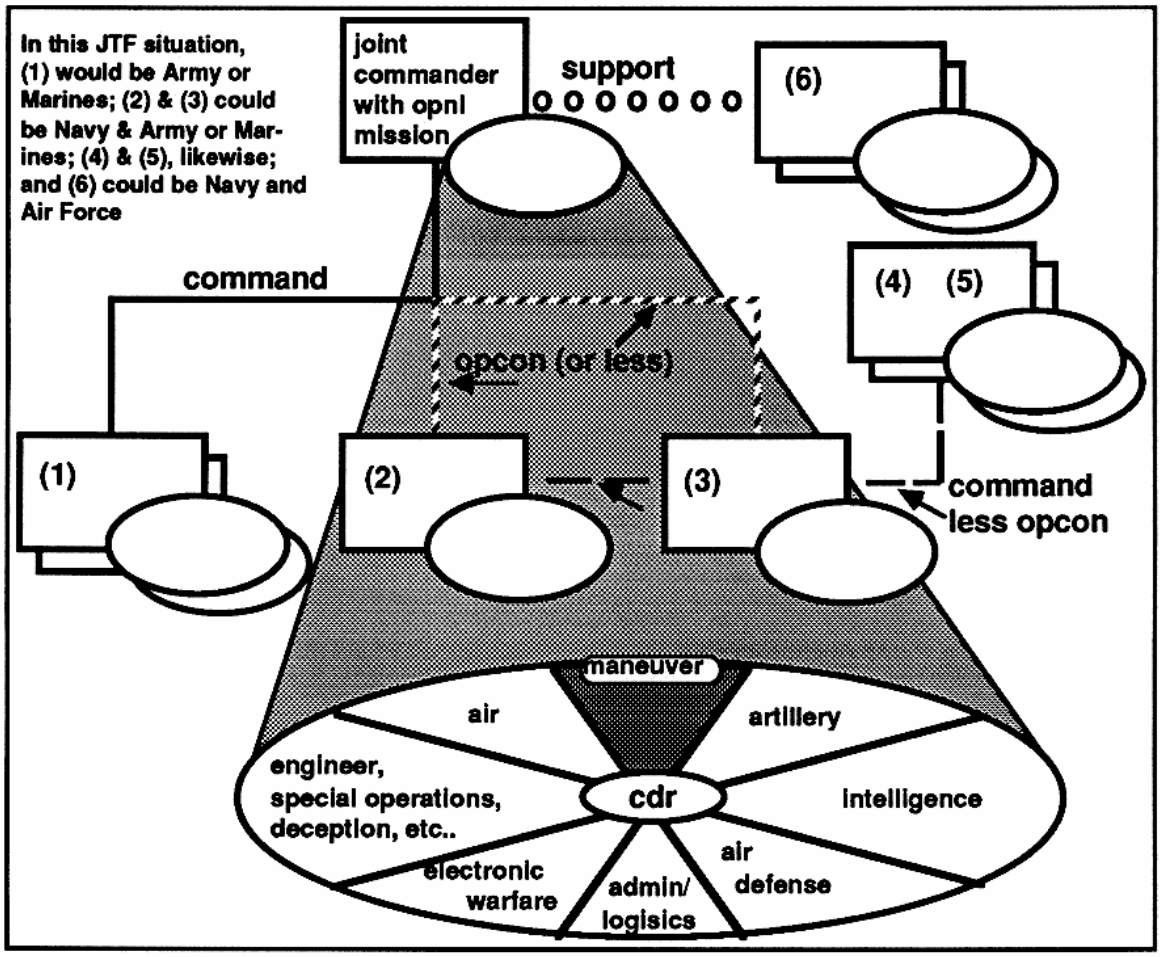

Figure 1. The Command and Control Challenge

The joint "commander with the operational mission" often sees [as in boxes (1)] forces that he commands fully (as an Army/Marine division commander commands his brigades/regiments); for them he is responsible for everything—personnel administration, for example. He always sees one or more units [boxes (2)], from another force of his or other Service, over which he has "opcon" (operational control).[6] In the case of a unit of another nation [boxes (3)], opcon's

[5]Joint Pub 1-02. p. 77.

[6]operational control "...normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions... [It] does not, in and of itself, include authoritative direction for logistics or matters of

strength may be diluted; joint definitions do not always apply. Units like (2) and (3) are under the "full command, less opcon" of yet another US or national contingent [boxes (4) and (5)]. Finally, the joint commander receives "support" (e.g., artillery, engineer, intelligence, naval gunfire, air) from one or more other places on the battlefield [boxes (6)]. In these many boxes are the "muscles" of the joint commander's force. Its "nerves" are his systems for command and control.

The commander's daunting C2 task is to pull together toward mission accomplishment the many subfunctions of battle (tacair, EW, air defense, etc.) shown in **Figure 1**'s expanded "disk"—whatever their source, and keeping maneuver the governing factor.

Each of the, perhaps a dozen or more, boxes has its own disk with components not necessarily those shown, and its own array of subordinate units. Through his command and control system—much of which he may not own—the top commander and each commander seeks to *see* the situation, to *decide* what to do, to *direct and coordinate* execution, and continuing the cycle to see the changing situation and decide again as necessary and execute.

An important tool for pulling all this together is the concept of operations of the multiservice/multinational commander (whether he commands a corps, or joint task force, or Marine Expeditionary Force is immaterial). Ideally this becomes the force's "nested concepts of operation" as portrayed in **Figure 2**.

More can be said, but the above is this paper's summary definition of "command and control."

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administration, discipline, internal organization, or training." Ibid. p 263.

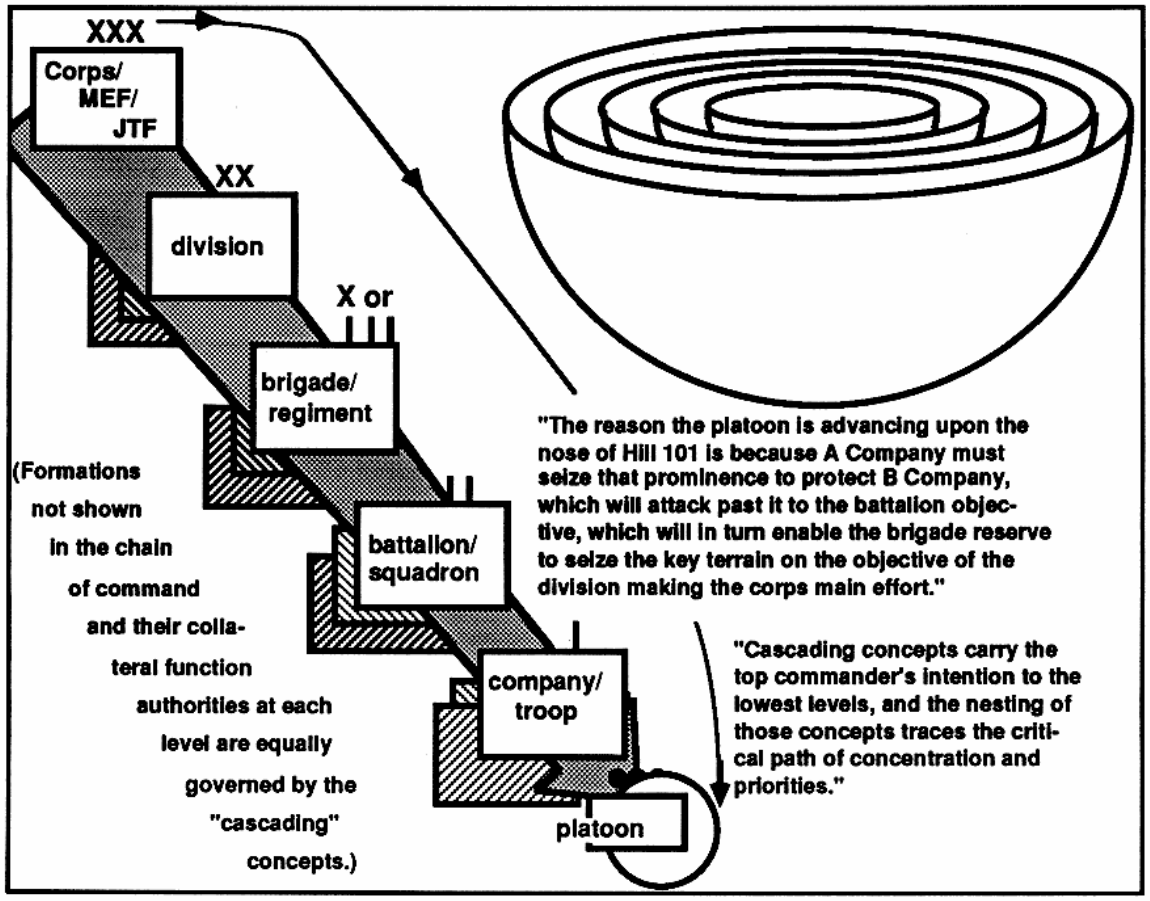

Figure 2. Nested Concepts of Operation[7]

[7]Figure 2 interprets ideas from "Concepts of Operation: Heart of Command, Tool of Doctrine" by Gen. William E. DePuy, US Army, Ret, in *Army*, August 1988, and quotes two of its paragraphs.

Chapter I. Command and Control of Force Projection Operations

Situation, Spring 1991

In April 1983, my report, *Command and Control of Theater Forces: Adequacy*, for the Program on Information Resources Policy, Harvard University, had this to say:

> *Our performance in providing the full range of means necessary for command and control systems for theater forces has been, and all too likely continues to be, gravely deficient. Although the means of command and control in the hands of U.S. and allied field forces may possibly be adequate for conditions short of war, they are seriously inadequate for war and hence for war's deterrence.*
>
> *Theater forces' command and control systems are not well tied together, top to bottom. They are not being exercised adequately under the expected conditions of war. Great sections of them will probably not survive the attack against them which is sure to come in war. For the typical senior commander, allied or U.S., whose forces must use these systems, they represent the largely un-planned splicing together of ill-fitting components which have been delivered to his forces by relatively independent parties far away who have coordinated adequately neither with him and his staff nor with each other. And they neither exploit the present capabilities of technology nor does the system for development adequately provide that future systems will.*[1]

This assessment reflected testimony in Congress, the conclusions of responsible authorities inside the Department of Defense, and the observations of informed outsiders in the period 1979-82. At that time, confrontation with the USSR was seen as the main military challenge and NATO's central region was seen as the main but by no means the only potential military theater.

Since 1983, these among other events have occurred:

- The Office of the Secretary of Defense, the Joint Chiefs of Staff, the Services, and the unified and specified commands have, commendably,

[1]John H. Cushman, *Command and Control of Theater Forces: Adequacy* (Program on Information Resources Policy, Harvard University, Cambridge, MA. April 1983) p. ES-3. (Published in 1985 by AFCEA [Armed Forces Communications-Electronic Association] International Press, Fairfax, VA.)

undertaken systematic, comprehensive, and well resourced programs to improve the situation.

- Defense spending rose sharply for several years; a high priority among those increases went toward improving command and control.
- The Goldwater-Nichols Department of Defense Reorganization Act of 1986, among other reforms, strengthened the authorities and responsibilities of the JCS Chairman and the commanders in chief of combatant commands, making possible in particular a strong and sustained corrective effort by the Joint Staff.
- While operations in Lebanon and Grenada in 1983 had cast grave doubt on the quality of command and control of theater forces, the Panama operation at end-December 1989 was reassuring in demonstrating results of this sustained effort.
- And finally, the United States beginning in early August 1990 led a United Nations coalition of unprecedented dimensions in deploying for and in conducting a highly successful military operation responding to Iraq's invasion of Kuwait, in which, among other features, command and control seems to have been superlative.[2]

Nonetheless, *measured against the criteria for force projection forces which have been laid out by the President*, (page 3 above) namely...

> *"[forces]...in existence [and] ready to act...[with] speed and agility..." "forces that give us global reach..." troops that are "well-trained, tried, and tested—ready to perform every mission we ask of them..." "a new emphasis on flexibility and versatility..." "...readiness must be our highest priority."*

...and *measured against the standard of excellence achieved in Desert Shield/Desert Storm* (or, considering the favorable factors present in the Gulf war, a higher standard), the proposition offered here is that, *for force projection forces*, much of the 1983 assessment remains true. Specifically...

The forces' command and control systems are not well tied together, top to bottom.	*This would still be largely true*
They are not being exercised adequately under the	

[2]Two good reasons: Not only was there plenty of time to get ready for both the air and air/land wars but, when in its first hours the air campaign achieved air supremacy, Iraqi ability to interfere with command and control became nil. Negating enemy C2 and C2 countermeasures was critical to Desert Storm's success; so will it be in future operations.

expected conditions of war.	*Very largely true*
Great sections of them will probably not survive the attack against them which is sure to come in war.	*Depends on the opponent*
They represent the largely unplanned splicing together of ill-fitting components which have been delivered to [the joint force commander's] forces by relatively independent parties far away who have coordinated adequately neither with him and his staff nor with each other.	*Still all too true*
They neither exploit the present capabilities of technology nor does the system for development adequately provide that future systems will.	*Much truth here, also*

While this paper makes no effort to "prove" the above judgments, a look at a hypothetical generic force projection scenario will perhaps lend some validity to them.[3]

Urgent Strike: A Generic Force Projection Scenario

The range of possible future force projection scenarios is very large, extending from something as small as, or smaller than, a Navy-Marine Corps evacuation of civilians from Liberia (as was taking place in August 1990 when the Gulf crisis broke), to a division-plus, almost entirely Army-Air Force-special operations, operation such as that in Panama 1989 with its force of 22,000 total, to an all-Service operation reaching as many as half a million troops, the size of Desert Shield/Desert Storm.

The following scenario is "generic." It is neither all Navy-Marine Corps nor largely Army-Air Force-special operations. Rather, it is a fully all-Service (and special operations) operation involving the mythical country of Tierra Verde, located in the area of responsibility of a unified command known as USXXXCOM. Insurgency within Tierra Verde, orchestrated and supported by Cucha, its hostile and heavily armed neighbor, has escalated into Cucha attack and seizure of Tierra Verde territory. Tierra Verde has requested immediate United States military support. Following a 36-hour crisis action sequence, the President has instructed the Secretary of Defense to order CINCXXX to assist Tierra Verde. The XXXCOM mission is, cooperating with Tierra Verde, to (1) preserve the functioning of the Tierra Verde government, (2) defeat the invasion, (3) restore the national territory, and (4) strengthen Tierra Verde's armed forces. The

[3]Those who consider this judgment unduly harsh are asked to reflect on the underlined phrases above.

Secretary of Defense has approved the decision of CINCXXX to execute an adaptation of Operation Plan 456, Urgent Strike.

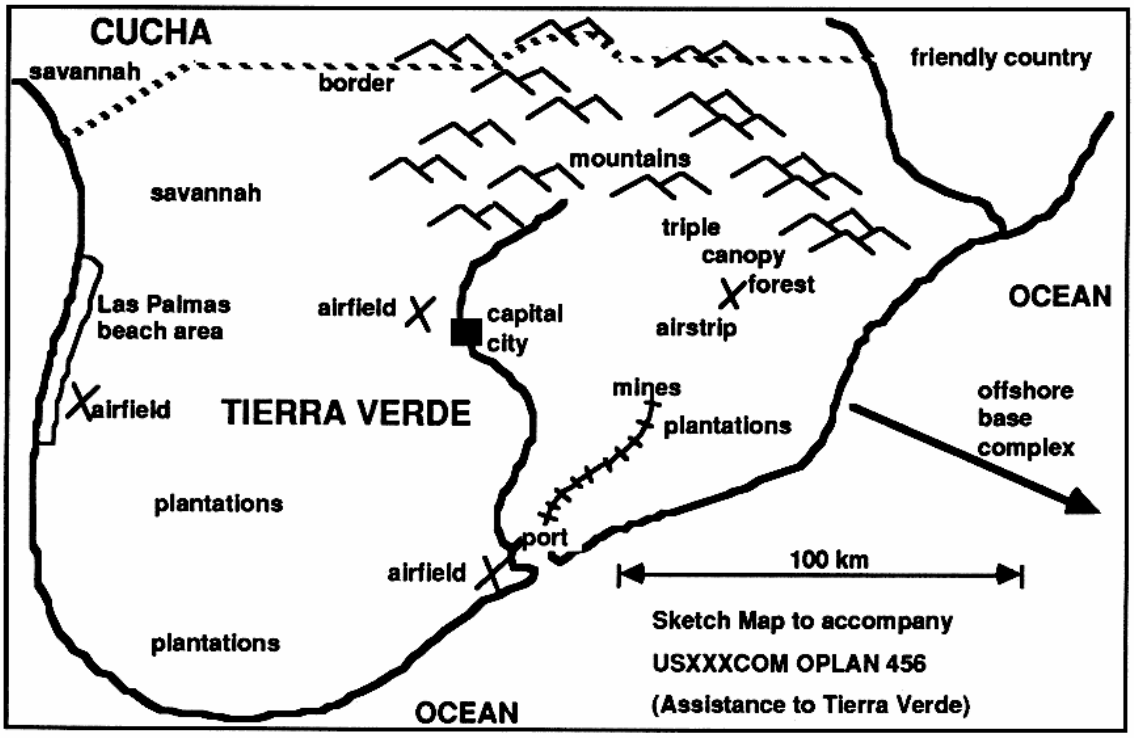

Figure 3. Tierra Verde

CINCXXX has established an all-Service JTF 19 with special operations and logistical components, and has ordered JTF 19 to execute USXXXCOM Operation Plan 456. JTF 19 can be both staged from and supported from an offshore base complex available to US forces, several hundred miles away. **Figure 4** shows the composition of JTF 19 (all units are fictitious, and abbreviations are in **Appendix A**).

JTF 19

47th AASLT Div (Reinf)	11th Air Division	(according to phase of opns)	
47th AASLT Div	21st TacFtrWng	19 MEB (MPF)	PHIBRON 4*
(-one bde)	102d TFS A-10	GCE	45 MEU
Bde, 102d Abn Div	103d TFS F-16	ACE	(BLT plus)
1/82d FA Bn (155mm)	104th TFS F-117	CSSE	4 amphib ships
Btry, 1/7 ADA Bn (Hawk)			6 frigates/
51st Engr Cbt Bn	33d TacAlftWg		destroyers
other (avn, sig, MI, etc)	3 TacAlftSqdn		

Other USAF units**

JTF Logistics Command	Joint Special Opns TF	Other units***
Elements 21st COSCOM	Advisory Team 32	
22d, 33d, 42d Aerial Ports	22d Ranger Bn	(for meanings
(DS)	1st Bn, 17th SF Gp	of abbreviations,
	17th SpecOpnsSqdn	see **Appendix A**)

*Opcon to JTF 19 during amphibious phase only. Other (8th Fleet) Navy elms in spt include CTG 81.1 (USS *America* and 7 combatants; CTG 81.2 (Amphib Gp); CTG 81.3 (Patrol Force) w/12 aircraft; CTG 81.6 (LogSupGru) w/8 log ships; others.

**Includes elements 10th TASS and an array of airborne collectors which also support JTF 19.

***Other forces also in support include 10th Air Force, theater/national intelligence assets, theater logistics, etc.

Figure 4. Joint Task Force 19

Cucha has a well-equipped and well-led six-division army, a modern air force of 120 combat aircraft, a small coastal navy, and sizeable and skilled special operations forces. Tierra Verde is weak in all these categories of forces; a small US military assistance team is in-country. JTF 19 must act quickly, to prevent collapse of the Tierra Verde forces and government. Rules of engagement established for the outset of operations permit neither air attack on Cucha territory nor ground operations inside Cucha.[4]

[4]During the crisis action sequence, CINCXXX offered a course of action which, using precision air and cruise missile weaponry, would have attacked Cucha in a (far smaller scale) version of the Desert Storm air campaign against Iraq. The President ruled out such a response to Cucha's aggression against Tierra Verde—but kept the option open should it be required. (Some reviewers have taken exception to this construct, e.g., "[W]hile not impossible, [it] seems unlikely. We learned from negative experience in Vietnam

Comparing Urgent Strike with Desert Shield/Desert Storm

This generic scenario is built to present a representative, very demanding, yet quite plausible all-Service force projection challenge. It is only one of many possible types of challenge. But Urgent Strike is far from a worst case. Something on the order of an early-August 1990 challenge, should Saddam Hussein have decided to attack southward after seizing Kuwait, might have been a considerably more difficult case to cope with than would be Urgent Strike.

A first-class execution of Urgent Strike in the tradition of Desert Shield/Desert Storm surely calls for repeating these, generally recognized, facets of the latter:

- Astute political-strategic direction by the President and Secretary of Defense
- Highly competent staff and executive performance by the Chairman, JCS, the Joint Staff, and the military Services
- Superior planning and execution by the responsible unified command and by supporting commands and agencies, especially by the air and sealift commands of the US Transportation Command (USTransCom)
- Superior operational and tactical performance and all-Service teamwork by the executing forces (the fleet, tactical air, air/land [Army and Marine Corps], and special operations forces, and their logistics)
- Although Urgent Strike involves only some 40-50,000 US troops compared to the 540,000 in Desert Shield/Desert Storm, two significant differences between the two contingencies make Urgent Strike a good deal more demanding in its own way than was Desert Shield/Desert Storm:[5]
- In Urgent Strike, the time available to the field commander to prepare his forces is zero. In Desert Shield/Desert Storm, General Schwarzkopf had five months to deploy and ready his command for the air war, and five weeks after that to complete deployment and preparations for the ground war.
- In Urgent Strike, all-Service operational and tactical integration uniformly takes place at very low echelons. For Desert Shield/Desert Storm, that

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and positive experience in Desert Storm that we need to go after the aggressor's forces, and not provide them with arbitrary sanctuaries.")

[5]There are other differences. Among them: Saudi Arabia provided a fully developed base, with a ready-to-use infrastructure of airfields, ports, roads, and pipelines; Tierra Verde is less developed. Desert Shield/Desert Storm was highly sealift-dependent; not so with Urgent Strike.

was generally not so. Although all-Service forces were thoroughly integrated in the air war and although a US Army armor brigade was placed under Marine command,[6] Army forces fought in corps formations in their own operational patterns, and Marines, in the I Marine Expeditionary Force, fought in theirs, which were different.

I surmise that about early-November 1990 General Schwarzkopf conveyed to his three-star US commanders, in words something like those below, his thinking on organizing for air/land operations:

> *"The US has two air/land formations in the desert. These are the I MEF with its two divisions and organic air, and Third Army[7] with its VII and XVIII Corps of some seven divisions total and its air support. Each of these formations is indoctrinated in its own ways of fighting, each is under its Service-designated commanders, and each has the full support of its parent Service.*
>
> *"To maximize the effectiveness of each, I want to keep them reasonably separate (although I will assign an Army armor brigade to I MEF). Time is short; teamwork within formations is vital; and there isn't time to teach Army divisions how to operate in a Marine formation, nor to teach Marine regiments or divisions how to operate inside Army corps or divisions.*
>
> *"I am counting on the US Marine Corps and the US Army to put into place in their respective air/land formations the very best command and control equipment possible from their inventories or producible in the time available. And I am counting on the commanders of I MEF and Third Army, working closely with Seventh Fleet and Ninth Air Force, to train their troops to absolute top efficiency so that, when and if air/land operations begin, they will go very well indeed."*[8]

General Schwarzkopf thus considerably simplified the command and control of his force. Such an option is not available to the Commander, JTF 19. Integration

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[6]Also, special operations forces operated jointly at low levels and some Army helicopters worked closely with the fleet.

[7]USMC forces in CentCom were commonly called "MarCent (MARCENT)" and I Marine Expeditionary Force (I MEF) was a tactical headquarters, its commander double-hatted as Cdr MarCent. Army forces were ARCENT, tactically known as Third US Army and including a substantial logistical contingent as well. Navy Forces (Seventh Fleet) were NAVCENT; and Air Force forces (Ninth Air Force) were CENTAF. I use here their tactical designations.

[8]Taken from my *Command and Control of Theater Forces: Issues in Mideast Coalition Command* (Program on Information Resources Policy, Harvard University, Cambridge, MA, February 1991) Appendix, p. 4.

of that commander's multi-Service operations takes place, not at the three- and two-star levels, but at the levels of colonel/captain and lieutenant colonel/commander, and below. JTF 19 has to hit the ground running. The JTF commander will not have months, not even even weeks or days, to train and to iron out his operational methods; his forces must be ready to fight as a single team, even as they assemble.

> *And their complex webs of C2 systems must be in place and working, from Day One.*

It is these two distinctions—the immediacy of operations, and the low echelons of all-Service teamwork that will uniformly prevail—that lead to the assessment, pages 16–17 above, that (leaving aside matters of force suitability, or "muscle," which are below optimum as well) command and control for force projection forces ("nerves") leaves a good deal to be desired today.

Adapting the left-hand column on pages 16–17's assessment to the specific situation of the Commander, JTF 19, the following judgment seems valid:

His force's command and control systems are not well tied together, top to bottom.	*Largely true*
His force was not exercised adequately under the expected conditions of war.	*Certainly true for his hastily formed JTF*
Great sections of his C2 will probably not survive the attack against them which is sure to come in war.	*Depends on what Cucha can do*
His force's C2 systems represent the largely unplanned splicing together of ill-fitting components which have been delivered to [the force commander's] forces by relatively independent parties far away who have coordinated adequately neither with him and his staff nor with each other.	*All too true, notwithstanding the efforts made over the years at interoperability*
His force's C2 systems neither exploit the present capabilities of technology nor does the system for their development adequately provide that future systems will.	*Quite true*

The Secretary of Defense and the American military establishment have a problem: The above smacks all too much of Grenada, 1983. Panama 1989 and the Gulf War have led the American public to expect considerably better than the above in an Urgent Strike situation. That Desert Shield/Desert Storm and Urgent

Strike are two different breeds of cat will be irrelevant; considerable improvement is required to reach the performance expectations engendered by Desert Shield/Desert Storm.

We can now look at the future of force projection in light of the experience of Desert Shield/Desert Storm. We can address how decisions on future force projection might be reached; what the forces' makeup might be; how force projection forces might be organized, employed, commanded, and controlled; and what the options might be for force projection forces of the future.

Although evidence for such a conclusion is still unfolding, it seems safe to say that Desert Shield/Desert Storm, albeit a clearly one of a kind operation, was a classic case in force projection. It seems to have set a new and very high standard of performance for US military institutions. Discovering and applying its "lessons learned" will be a major preoccupation in the months and years ahead.

The Gulf war's conduct and eventual success does seem to have vindicated 1986's Goldwater-Nichols legislation.[1] The Chairman, JCS, responsive to the Secretary of Defense, the Joint Staff working for the Chairman, the Services under their Chiefs contributing and responding, and the field commander exercising authoritative direction of his Service and special operations component commanders and coordinating coalition partners in a common endeavor, have by all accounts run a very good war. Objectivity, the national interest, and success in the common undertaking appear to have been the governing watchwords; Service parochialism and infighting have been very much second order phenomena, if that. The way this war was managed may well have transformed the way the Department of Defense does business, at least in crisis and war.

Conduct of the war, however, involved no long-range planning and few tough decisions on resource allocation; people used what was available or readily acquirable. This paper has the Department of Defense engaged on a broader scene: planning and programming. Whether a similar display of effective decision-making can occur as those who planned and fought the Gulf war turn their attention to generating forces for force projection in the future may be questionable. There is more than one possibility.

Defense Decision Making, Early 1989 to Spring 1991

The first two years of the Bush administration's defense planning were a time of adjustment and improvisation as the Soviet military threat seemed to recede, the scene began to change in Eastern Europe, and US defense budgets started their decline. Then, eighteen months into the period, came Iraq's seizure of Kuwait and the US-led United Nations coalition's response. Meanwhile long-term planning continued.

It was not until April 1989 that the President had his new Secretary of Defense,

[1]In hearings of the Policy Panel of the House Armed Services Committee, Congressman Aspin in the chair, a series of witnesses testified both to the excellence of Desert Shield/Desert Storm and to the contribution of Goldwater-Nichlols. See also Larry Grossman's "Beyond Rivalry" in *Government Executive,* June 1991. pp. 10-15.

Richard B. Cheney, and authoritative defense planning could begin. In mid-1989 the USSR's hold on Eastern Europe began to break up, forcing major new considerations in defense thinking. The November 1989 fall of the Berlin Wall triggered calls from the Congress and others: "What is the new national strategy?" and "What should be the new forces?"—calls to be made ever more insistent with the early 1990s upheaval in Eastern Europe's regimes, an ever-weakening Soviet economy and its military and political fallout, and progress with the USSR on arms reductions.

The new Under Secretary of Defense for Policy, Dr. Paul Wolfowitz, took his place in November 1989; he immediately began drafting an OSD strategy paper. Meanwhile the new JCS Chairman, General Colin Powell, installed a month earlier, had mounted a Joint Staff effort to develop the minimum force necessary for the United States to maintain a world leadership position; its name was the "base force." In early 1990 these two efforts merged into a common approach to strategy and force structure. Accepted by the White House, this became the basis for the President's August 2, 1990, speech at Aspen, Colorado, to be elaborated in addresses, among others, by the Secretary of Defense on September 6 at The Homestead in Hot Springs, Virginia, and the JCS Chairman on December 14 to the Armed Forces Communications and Electronics Association meeting in Washington.

Largely unaffected by the Gulf crisis and war, the OSD-JCS planning product laid out four "force packages" and four "supporting capabilities". In early 1991 testimony senior defense authorities spelled these out:

<u>Force Packages</u>

Strategic forces: Nuclear deterrence and strategic defense

Atlantic forces: East coast plus Europe, Mideast, Mediterranean, and Southwest Asia

Pacific forces: West coast, plus Hawaii, Japan, and Korea, and fleet deployments

Contingency forces, Stateside: for global crisis and contingencies, all Services and special operations

<u>Supporting Capabilities</u>

Transportation: sealift; airlift; and pre-positioning

Space: communications, navigation, and intelligence

Reconstitution: industrial capability; mobilization; and force regeneration, including reserves

Research and development: to support and improve all forces and capabilities

Meanwhile, detailed budgets and force structures were being refined. The two-year budget presented in early 1991 for FYs 1992–93 offers these key figures:

	Army	Air Force	Navy	Marine Corps
Active Strength				
Projected, FY 1995	536,000	437,000	510,000	171,000
(compare end FY 89)	*770,000*	*571,000*	*536,000*	*197,000*
Active Force Composition				
Projected, FY 1995	12 divisions	15 wings	12 carriers 6 amphibious ready groups	3 divs/wings
(compare end FY 89)	*18 divisions*	*24 wings*	*15 carriers* *6 amphibious ready groups*	*3 divs/wings*

End FY 1993[2]		*End FY 1989*
Sealift	data not available, but not substantially different from end FY89	*13 Maritime Prepositioning Ships* *12 Army-Air Force Prepositioning Ships* *8 Fast Sealift Ships* *(plus Ready Reserve Force ships)*
Airlift	data not available, but not substantially different from end FY89	*109 C5s, 234 C-141s, 450 C-130s (active and reserve, plus CRAF)*

The above figures roughly show where the US forces and capabilities for force projection were programmed to be four or five years from today, the Spring of 1991. When compared to the FY 1989 figures, the impression is that the numbers were reached by simply setting a cost ceiling and then cutting primarily the forces for Europe, where the Soviet threat had dramatically receded, and not by any fundamental rethinking of force projection requirements, or of options, or of potential capabilities for the future.

This was perhaps understandable, given the short response time to events. But questions arise: Looking down the road, do these forces match a fundamental strategic assessment of the need? Do they reflect careful thought on potential future capabilities? Do they reflect a comprehensive joint approach to meeting the future requirement?

Options for Force Decision Making, Spring 1991

We can examine three possible options for force projection force planning, available in the Spring of 1991:

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[2]The Department of Defense is conducting a Congressionally mandated Mobility Requirements Study which will quantify US strategic lift needs for 1991-2001.

Option A visualizes business as usual. *This option would in effect continue the approach of 1989-90, simply refining the numbers for 1993 and beyond, with of course due regard for the relevant lessons learned from Desert Shield/Desert Storm.*

Option B visualizes an initiative by the JCS Chairman and Joint Staff. *This option fulfills the Goldwater-Nichols expectation that, under the Secretary of Defense, the Chairman with Joint Staff support would be personally responsible for performing net assessments, preparing contingency plans, advising the Secretary of Defense on critical deficiencies in force capabilities, evaluating unified command preparedness, advising on the military departments' budget proposals, recommending spending priorities and alternative budget proposals, and assessing military requirements for defense acquisition.*[3]

Option C takes Option B one step further; it visualizes a bold initiative by the Secretary of Defense, with the President himself involved, and supported by the Chairman/Joint Staff. *This option takes what was done in crisis and war for Desert Shield/Desert Storm and applies the same approach to the determination of force composition, force organization, and force employment for future force projection as an integral part of the Department of Defense planning, programming and budgeting activity. Establishing a cost ceiling, but at the same time seeking a standard of* ***force planning*** *excellence like that of the Department of Defense's* ***operational planning*** *performance in the Gulf war (two different propositions, to be sure), this option could be called the full implementation of that war's lessons learned.*

Figure 5 lays out the three options in more detail. Each has a cost ceiling, or range of costs, built in.

[3]These, among others, are responsibilities of the Chairman, JCS, per Section 153, Public Law 99-433—October 1, 1986, Goldwater-Nichols Department of Defense Reorganization Act of 1986.

	Option A	Option B	Option C
President & SecDef	No change from 1991 guidance	No change from 1991 guidance	A call for "bold new thinking" on force projection
Chairman/ Joint Staff	No change from 1991 thinking on force projection	Develop new thinking on force projection	Respond to SecDef with comprehensive new thinking
Role of Service Chiefs/ Staffs	Generate ideas and forces; Joint Staff reconcile	Respond to Chairman and Joint Staff initiatives	Support Chairman and Joint Staff; contributing new ideas
Role of US SoCom	Generate needs for special operations forces	Same, responsive to Chairman and Joint Staff	Support Chairman and Joint Staff with new thinking
Role of US TransCom	Generate sealift and airlift needs	Same, responsive to Chairman and Joint Staff	Generate new thinking on sealift/ airlift/prepositioning
Role of US SpaceCom	Generate space needs	Same, responsive to Chairman and Joint Staff	Generate new thinking on space contribution
Role of other Combatant Commands	Look at force projection in light of Gulf war lessons	Same, responsive to Chairman and Joint Staff	Generate new thinking on forces, organization, and employment

Figure 5. Options for Decision Making on Force Projection Forces

Option C, Elaborated

Option C stems from policy decisions by the President and the Secretary of Defense. Accepting that resources for defense will decline steadily in the planning period, these two National Command Authorities, the Commander in Chief according to the Constitution and his virtual "deputy commander in chief" according to the National Security Act of 1947, as amended, begin with the

President's Aspen address of August 2, 1990, in which he set the basic requirements for force projection forces:

> *"[forces]...in existence [and] ready to act...[with] speed and agility..." "forces that give us global reach..." troops that are "well-trained, tried, and tested—ready to perform every mission we ask of them..." "a new emphasis on flexibility and versatility..." "...readiness must be our highest priority."*

The President and Secretary of Defense agree that, given the fiscal limit, in generating forces for force projection it should nonetheless be possible to achieve a standard of excellence akin to that of the Gulf war. They perceive that, if such forces should ever be employed, the achievement of a Gulf war standard of performance in their operations demands that *the forces' preparation long before the war must itself be of the highest standard.* They decide that business as usual in force generation will not suffice. In effect, they say to the Chairman, JCS, and his colleagues: "You showed us that you can run a war; now show us if you can generate an array of all-Service forces suitable for future force projection."[4] They add: "As in the Gulf, we are not talking only about the *muscles* of these forces—their battalions, squadrons, and combatants, and their battle groups, wings, divisions, and logistics components. We are talking about these forces' *nerves*—their command arrangements and their systems for command and control."

In this option, the Secretary of Defense, speaking for the President, might say to the Chairman:

> *"We want some bold new thinking on our requirements for force projection. The world scene will be unsettled, rife with turmoil, multi-faceted, complex, and fraught with both danger and opportunity. No longer will we know for sure who will be the enemy, or our allies. To influence situations in this scene, the United States must have suitable and sizeable all-Service forces in the homeland and present in, or projectable to, important regions. Please tell me what more concrete guidance I should give."*

And the Chairman might send him a draft that reads something like this:

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[4]The 1990 Defense authorization included language supporting this approach. Reflecting Congressional unhappiness with a perceived comptroller-oriented rather than military strategy based budget, it calls for the Secretary of Defense in each FY, 1992/93/94, to submit to the Congress a "fiscally constrained... national military strategy report" which includes the "organization and structure of military forces to implement the strategy". The law says that "In accordance with his role as principal military advisor to the Secretary of Defense, the Chairman of the Joint Chiefs of Staff shall participate fully in the development" of the report.

Build properly sized all-Service forces for force projection that are skilled andversatile, that work well together, that exploit technology, that the nation can project and sustain, and that can hit the ground running when ordered to do so, for any mission, under unified command.

Seek major improvement in the United States' ability to project and sustain forces, even with fewer forward bases. Prepare for a broad range of possible military action, from simple influence, military assistance, military sales, and nation-to-nation military linkages, through presence and stability operations, to major military intervention and war. Develop all-Service forces, combinable in various mixes. Increase jointness under joint and unified command. Exploit technology. And consider creative command arrangements, especially in coalitions.

Suitably based and using prepositioning, these forces are to be capable of quick tailoring for the unpredicted and for projection in a full range of potential situations and tasks. They are to be balanced forces in being, superbly trained and ready, skilled in teamwork, and immediately deployable and usable without major mobilization. Come up with new approaches to logistic support of forward forces; see if stocks and service support forces in forward areas can be kept low through command anticipation of requirements and tightly organized and controlled methods of delivery by sea and air. Build forces capable of timely rapid growth through callup and deployment of reserve individuals and units. Visualize forward bases, either available, or acquirable, or rapidly buildable on the scene of operations using materiel suitably prepositioned. Insure transportation and logistic support on hand for deployments and sustained operations, with backup in the industrial base. Build suitable military capabilities for the full spectrum of low intensity conflict, to include assistance of friends in nation-building and in dealing by force of arms with terrorists and with manufacturers and distributors of drugs who menace United States national security should that be required.

And do this within realistic fiscal constraints. Specifically...(the numbers)...

Signing off on this or like guidance, the Secretary of Defense says to the JCS Chairman: "There, my friend, is a *real* challenge; it will make Desert

Shield/Desert Storm look easy."[5]

Implications[6]

Compared with the Department of Defense system for fiscal and force planning in previous years, Option A would cause little perturbation, Option B would mean substantial change, and Option C would be dramatically different. Both Options B and C would see a new involvement of the Chairman/Joint Staff in force programming and budgeting, with Option C, although consistent with the 1986 law, very likely taking that involvement well beyond what the Services, their Chiefs, and their Secretaries have been willing in the past to accept without demur, especially in the naval establishment.[7]

To illustrate: In 1983, after a series of hearings in both the House and Senate on defense organization, the House Armed Services Committee reported out a bill, H.R. 3718, which substantially increased the authority and responsibility of the Chairman, JCS. That bill:

- Provided that the chain of command to combatant commands would run from the President to the Secretary of Defense, and through the Chairman, JCS, (rather than through the Joint Chiefs of Staff as a body, as theretofore) to the commands.

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[5]It would seem that, for the JCS Chairman and his Joint Staff to rise to the occasion here, they must form a working partnership with the Assistant Secretary of Defense (Program Analysis and Evaluation) (ASD [PA&E]) and his people, so that in casting force structure options and their assessment the military staff of the Secretary of Defense properly takes the lead, yet teamed with the ASD (PA&E) and his staff in order that agreed data on costs and consequences supports what is presented to the Secretary of Defense; ASD (PA&E) would retain an independent function to advise the Secretary of Defense. Since the 1961 establishment of the Systems Analysis shop in the office of the ASD/Comptroller, for well known reasons the primary source of numbers for force structure and resource decision-making has been in OSD. Although Goldwater- Nichols led to establishment of an equivalent shop in the Joint Staff, the J-8 (Force Structure, Resource, and Assessment), and while this shop has usefully served the Chairman, JCS, its impact on force structure and other resource decisions has been marginal. (In recent times, since money has been short, it seems that the driving element, the one to which Service budgeteers primarily respond, has been neither PA&E nor the Joint Staff, but the DoD Comptroller. This may spare the JCS Chairman and Joint Staff (and ASD [PA&E]), some agonizing decisions; but it also deprives the resource allocation process of proper joint military input.)

[6]This section, "Implications," could well represent attitudes which no longer prevail in the current Pentagon scene.

[7]The desire for Service autonomy in deciding how it spends its money goes far back in the Navy. Admiral King, Chief of Naval Operations, 1946: "The needs of the Navy should not be subject to review by individuals who do not have informed responsibility in the premises. In my opinion, once the functions of the armed services have been coordinated by strategic decisions and the appropriate allocation of missions, there should be no impediment to the presentation of naval estimates to the Congress." Admiral Radford, Commander in Chief, Pacific, 1949: "...I would say that in the last analysis, however, that in the case of the Navy, until the officers in the other services have an appreciation and an understanding of naval matters... no matter what the ceiling is, the Secretary of the Navy and the Chief of Naval Operations must be able to decide what is the best way to spend that money." (The author's notes do not include citations for these quotes; research continues.)

- Made the Chairman, JCS, responsible for providing advice to the President and Secretary of Defense in his own right, retaining the other members of the JCS as "principal military advisors."

- Gave the JCS Chairman greater management authority over the Joint Staff.[8]

In 1984 the House of Representatives, at the insistence of Congressman Nichols (then Chairman of the House Armed Services Committee Investigations Subcommittee) made this bill part of the annual Department of Defense authorization bill.

Compared with the authorities and responsibilities eventually assigned to the Chairman, JCS, in 1986 by Goldwater-Nichols, these were modest provisions indeed. Yet the then Secretary of the Navy, John Lehman, bitterly attacked the legislation in a letter to *The Washington Post*, saying that:

- "[The Nichols bill] would create a Prussian-style general staff reporting to a strengthened... very powerful uniformed chairman...

- "[The] joint staff is to be detached from JCS control and assigned directly to the person of the newly powerful chairman...

- "To interpose the chairman of the Joint Chiefs of Staff between the president and secretary of defense and service chiefs, or between the secretary of defense and field commands, would in practice restrict that advice to the opinion and decision of one man, the chairman himself, and his general staff bureaucracy. The history of such arrangements is not a happy one."[9]

Such views are in the tradition of the Navy Department and its Services.[10] In a 1986 letter, the Commandant, US Marine Corps, made similar points:

> "[T]he U.S. Constitution provides (as in every other nation State) that the civilian head of government has the ultimate military authority and responsibility. In his dual capacity as JCS military staff member and Chief of Service (or Chief of Staff/CJCS), each

[8]H.R. 3718, 98th Cong., 1st Session, introduced on July 29, 1983, by Mr. Nichols, Mr. Hopkins, Mr. Kazen, and others.

[9]John Lehman, "Let's Stop Trying to Be Prussians," *The Washington Post*, June 10, 1984 p. C7.

[10]An exception is Admiral Harry D. Train, USN, former Director of the Joint Staff and former CINC, US Atlantic Command, who in 1982 testified in support of strengthening the authorities and responsibilities of the Chairman, JCS. US. Congress, House, Committee on Armed Services, Investigations Subcommittee, Hearings, *Reorganization Proposals for the Joint Chiefs of Staff*, 98th Cong., 1st Session, June 18, 1983, pp 787-791.

> member of the JCS can be held accountable for his collective performance and his individual functional performance... When collectively the staff disagree, a commander [meaning the Secretary of Defense]—not a staff officer [meaning the Chairman, JCS]—must resolve the issue. One move which would focus their efforts (as JCS) on the operational and strategic issues would be to keep them out of resources management; that is the function of the Military Departments, OSD, and the SecDef."[11]

One can speculate that, while such views may have become muted in the last few years, they could still be widely held—and heard from within the Pentagon should either Option B or Option C be followed—and not from members of the naval Services only.[12]

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[11]"Marine Corps Comments on the Draft of John H. Cushman's *Command and Control of Theater Forces; the Korea Command and Other Cases,*" Appendix A to Ch. 15, final report. (Program on Information Resources Policy, Harvard University, Cambridge, MA, 1986) p. 15A-1.

[12]In 1984, a Committee on Civilian-Military Relationships (its military members were General Lyman L. Lemnitzer, former Army Chief of Staff and former Chairman, JCS; Admiral James L. Holloway, former Chief of Naval Operations; General Louis Wilson, former Commandant, US Marine Corps; and General John W. Vogt, former Director of the Joint Staff and former Commander-in-Chief of both US Air Forces Europe and US Air Forces Pacific) took strong exception to legislation being considered by the Congress "to greatly enhance the status of the Chairman of the Joint Chiefs of Staff." The report said that "At the heart of the matter is the danger of inordinate military control over the defense establishment and the inherent weakening of civilian controls." It said that the then existing JCS system, including the Chairman's role, "requires no significant modification," and that proposals before Congress, particularly H.R. 3718, "represent an unalloyed prescription for the establishment of a National General Staff and a single armed forces chief of staff... an organizational philosophy explicitly rejected in the creation of the JCS concept of corporate advice and planning." See *A Report by the Committee on Civilian-Military Relationships* (Hudson Institute, Indianapolis, IN. 1984) pp 128-129.

Chapter III. The Makeup of Force Projection Forces

A Short History of US Force Projection and its Command and Control

US force projection is as old as the United States, as is the history of US force projections command and control. Six months before the Declaration of Independence, the Naval Committee of the Continental Congress ordered an eight-ship squadron of converted merchantmen under Commodore Ezek Hopkins, 234 Marines embarked, to sail from the Chesapeake to Providence in the Bahamas and there to seize British cannon and powder sorely needed by the Continental Army. The landing and taking of stores, under naval command, met little resistance and, after an engagement with the British in Long Island Sound, Hopkins delivered the munitions to General Washington in New London, April 1776.[1]

The next 166 years, until airborne operations accompanied November 1942's landings in North Africa, were a time of entirely seaborne force projection. The new nation's first challenge was in North Africa where the Barbary states' pirates, with British money no longer buying protection from them, began raiding US commerce. Tribute was the United States' solution until 1796, when President Washington told the Congress "...respect to a neutral flag requires a naval force, organized and ready to vindicate it from insult or aggression.." and the Congress ordered construction of the Navy's first three frigates to continue.[2] While Nelson's British squadrons were fighting those of France and through the War of 1812 the US Navy cut its teeth in the Mediterranean. "In the end (1816) the United States set an example to the other maritime nations by exacting at the point of cannon a lasting peace from the corsairs."[3]

The War with Mexico saw the Navy squadron under Commodore John D. Sloat, later Robert F. Stockton, projecting force both independently and cooperating with Captain John C. Fremont and Brigadier General Stephen W. Kearney of the Army along California's coast, and the squadron of Commodore David E. Conner, later Matthew C. Perry, supporting the operations into Mexico of

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[1] *Marines in the Revolution* (History and Museums Division, Hqs US Marine Corps, Washington, 1975), pp. 41-60.

[2] Dudley W. Knox, A History of the United States Navy (New York, Putnam, 1948), p. 60. These were *Constitution*, *Constellation*, and *United States*.

[3] Louis B. Wright and Julia H. Macleod, *The First Americans in North Africa* (Princeton, Princeton University Press, 1945), p. 16. Based on records kept by William Eaton while the US consul at Tunis and later as naval agent in the Mediterranean, this book describes the 1805 expedition from Cairo of a motley army of Arabs, Greeks, and others led by Eaton to capture Derna. This and the US naval presence offshore caused the Pasha of Tripoli to seek at least a temporary peace. Among the ten Americans in Eaton's force were Lieutenant Presley N. O'Bannon and his seven Marines.

Generals Zachary Taylor and Winfield Scott.[4] Proposing in March 1847 at Vera Cruz what one author calls the largest amphibious invasion yet attempted in history, Scott with Conner's help gathered transports and the two officers worked out the beach selection and landing plan and cooperated in the landing's execution.

> "The maneuver itself was involved, as it required all of Scott's troops to be transferred from their own ships to Conner's naval vessels and then transferred again to the flatboats.... Each boat, commanded by a naval officer, carried seventy soldiers; sailors manned the oars.... (O)nly a few ineffective skirmishers greeted the first wave of 5,500 men as they splashed ashore. By evening the rest of Scott's nearly twelve thousand men had been landed. It was a remarkable operation, both for its size and for the efficiency with which it was carried out."[5]

Seaborne force projection continued: the 1898 War with Spain brought the US Navy's defeats of Spanish fleets at Santiago de Cuba and Manila Bay, Army operations in Cuba, Puerto Rico, and the Philippines, and Navy occupation of Guam, Samoa, and Wake Island; 1917-18 saw the overseas projection of a two million-man American Expeditionary Forces to France; and from 1900 into the 1930s Army troops and Marines went into and out of places like Panama, Haiti, Nicaragua, Hispaniola, the Philippines, and Mexico.

By the end of the 1914-18 war, General Pershing had approved a proposal by Brigadier General William ("Billy") Mitchell, chief of the AEF's Air Service, to form in 1919 Army units for parachuting behind enemy lines. In the 1920s-30s both Germans and Soviets began to develop the concepts of parachute and glider landings. In 1928 in Texas the US Army dropped a small number of men by parachute with weapons and ammunition; by 1938 instruction at the Army's Command and General Staff School was beginning to touch on airborne warfare. In May 1940, German airborne and glider troops saw action in the invasion of Belgium and France; later that year German glider troops seized the strategic Corinth canal in Greece. Then, in May 1941, the German invasion of Crete by parachute and glider confirmed that the air had indeed opened a new avenue for force projection and that airborne/airlanded operations were a new vehicle.

Beginning with a test platoon of volunteers at Fort Benning, Georgia, in July 1940, the Army created six airborne divisions for service in World War II.

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[4]John S.D. Eisenhower, *So Far From God; The U.S. War with Mexico 1846-48* (New York, Random House, 1989), pp. 195-232.

[5]Ibid., pp. 254-260.

Coupled often with seaborne/amphibious projection under joint command, World War II saw US Army (with Army Air Forces) airborne/airlanded operations in North Africa in 1942; in Sicily in 1943; and in Italy, New Guinea, Leyte, Corregidor, and Normandy in 1944; the Netherlands in 1945; and, also in 1945, airborne/airlanded planning was under way for the invasion of Japan.[6]

World War II's force projections were however primarily amphibious. In Nimitz's South and Central Pacific, amphibious operations with US fleet units were both US Army and US Marine Corps; in MacArthur's Southwest Pacific they were entirely Army, involving Army engineer amphibious brigades with their boat and shore regiments as well as the fleet; in Eisenhower's (later Alexander's) Mediterranean theater and in Eisenhower's European theater where Army engineer amphibious brigades also served, the amphibious land forces were entirely from the armies of America and its allies.[7]

The Korean War saw one amphibious assault, at Inchon with one Marine division in the landing force,[8] and one regimental-sized Army airborne assault, at

[6]James M. Gavin, *Airborne Warfare* (Infantry Journal Press, Washington, 1947), Introduction by Major General William C. Lee, pp. vii-viii.

[7]Although not necessarily germane to today, of historical interest is a July 1964 paper of the Office, Chief of Military History, US Army, which lists "Major U.S. Amphibious Operations" of World War II, meaning "those operations in which units of regimental combat team (RCT) strength or larger were committed in the initial assault" and specifying that "the category 'assault forces' is limited to those U.S. units which landed from the sea on D-day." The paper comments that the list "is based on readily available sources in the Office, Chief of Military History, and does not represent an official definitive statement on the subject." **In the Pacific** there are listed **17 Army**-only assault landings of RCT size (Attu, Nassau Bay, Kiska, Vella Lavella, Makin, Arawe-New Britain, Saidor, Aitape, Toem-Arara-Wadke, Noemfoor, Sansapor-Opmarai, Ulithi, Mariveles, Palawan, Negros, Legaspi, Macajalar Bay); **11 Army**-only assault landings of two RCT or division-minus-one-RCT size (Woodlark-Kiriwana, Admiralties, Tanamerah Bay, Humboldt Bay, Biak, Anguar, Nasugbu, Mindoro, Zamboanga, Panay, Cebu); **6 Army**-only assault landings of full division size (Morotai, Ormoc, Zambales [plus one RCT], Kerama Retto, Ie Shima, Malabang-Cotabato), and **2 Army** assault landings of multidivision size (Leyte [four divisions], Lingayen Gulf [four divisions]). **10 Marine**-only assault landings are listed (Guadalcanal-Tulagi [one division], Bougainville [one division], Tarawa [one division], Cape Gloucester [one division], Talasea [one regiment], Emirau [one regiment], Saipan [two divisions], Tinian [one division], Peleliu [one division], and Iwo Jima [two divisions]). **6 Army-Marine** assaults are listed: (Russell Islands [Army RCT equivalent plus Marine raider battalion], New Georgia [Army division plus two Marine raider battalions], Kwajalein [one Army and one Marine division], Eniwetok [one army RCT, one Marine regimental landing team], Guam [one Army RCT, one Marine division and one two-regiment Marine brigade]; Okinawa [two Army and two Marine divisions]. **In the Mediterranean/Europe** there are listed **6 Army**-only assault landings (Northwest Africa [four divisions, one RCT, one battalion of another RCT, one ranger battalion], Sicily [four divisions, three ranger battalions], Salerno [two divisions, three ranger battalions], Anzio [one division, one ranger force of three battalions], Normandy [six divisions], Southern France [three divisions, one special service force of regimental size]. One Army division (3d Infantry Division [Northwest Africa/Sicily/Anzio/ Southern France]) and two Marine divisions (the 1st [Guadalcanal/Cape Glouceseter/Peleliu/Okinawa] and 4th [Kwajalein/Saipan/Tinian/Iwo Jima]) made four assault landings; two Army divisions (1st [Northwest Africa/Sicily/Normandy] and 45th [Sicily/Salerno/Southern France] Infantry Divisions)made three; one Army division (2d Armored Division [Northwest Africa/Sicily) and two Marine divisions (2d [Tarawa/Saipan] and 3d [Bougainville/Guam]) made two. **Total assaults: 42 Army-only, 10 Marine-only, 6 Army-Marine. "Assault division-equivalents": 58 Army; 16 Marine.** (Three regimental assaults equal one division assault)

[8]The Army's 7th Infantry Division was administratively loaded in the Second Echelon Movement Group.

Munsan. Vietnam, with Marine and Army divisions in-country on like missions, saw neither amphibious nor airborne operations of much scale. All troops moved to Korea, and most to Vietnam, by sea.[9] Dominican Republic (1965) was Army airborne (loaded out, but switched to airlanded) and Marine amphibious; Lebanon (1982-83) was Marine amphibious; Grenada (1983) was both amphibious (Marine) and airborne (Army); and Panama (1989), with some forces in place, featured airborne (Army) force projection.

And with 1990-91's Desert Shield/Desert Storm the United States under unified command executed by sea and air the most remarkable force projection in warfare's history.

The Evolution of US Navy Force Projection[10]

Force projection of naval concern involves not only the combatant and amphibious ships of the fleet, and their aircraft, which apply the force but also the sealift, both civilian and military, that supports the fleet and the distant bases like Subic Bay in the Philippines and Rota in Spain from which fleets operate and are sustained.[11] The line between the fleet's and its supporting logistics is indistinct; US Navy combat logistics and support ships often blend in the sea support train with non-Navy cargo vessels. And from before Nelson's day, through Mahan's time, to the present, the exercise of seapower has been seen as requiring both the long legs of the fleet and a network of bases distant from the homeland.

Until 1949 the US Army Transport Service (ATS) owned substantial numbers of passenger and cargo ships (and the Army's Transportation Corps, as do its successor organizations today, managed Army lighters and over-the-shore craft for offloading transports into ports and beaches in a theater of operations). An early action by the Secretary of Defense upon creation of that office in 1947 was to establish a Military Sea Transport Service (MSTS) which combined the Navy Transport Service (NTS) and ATS. In 1970, MSTS became the Military Sealift Command (MSC); in 1987 MSC along with the Air Force's Military Airlift Command and the Army's Military Traffic Management Command formed the US Transportation Command (USTransCom), a unified command responsible to the

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Korea also saw the December 1950 amphibious withdrawal of two Army, one Marine, and two Republic of Korea divisions and a ROK marine regiment from Hungnam.

[9]In December 1967, 22 C-133 and 391 C-141 airlift missions moved the 101st Airborne Division, minus its 1st Brigade already there, (10,000 personnel and 5,300 tons of equipment) from Fort Campbell, KY, to Vietnam in the largest troop airlift to that date. I commanded the 101st's 2d Brigade.

[10]Treatment of the US Navy's force projection, like that of the other Services which follows, addresses factors (e.g., sealift, bases) which are outside the Services operational formations but are essential for the projection of force.

[11]Fleets depend on airlift as well; treatment of airlift comes later.

Secretary of Defense and responsive to the Chairman, JCS, and Joint Staff acting for the Secretary.

The Gulf war was TransCom's baptism by fire. In a "sealift effort of huge proportions," MSC used its active force (13 Maritime Prepositioning Ships to move Marine Corps equipment and supplies, and 12 Afloat Prepositioning Ships for Army and Air Force equipment and supplies) and activated eight "roll-on/roll-off" Fast Sealift Ships for moving Army equipment; all these were civilian manned. Combined with the activated Ready Reserve Fleet managed by the Maritime Administration and US and other nations' commercial shipping, MCS was managing in December 1990 a sealift fleet of more than 200 ships.[12]

Given that its submarines for strategic nuclear attack are not part of force projection as defined in this paper, the US Navy sees its aircraft carriers[13] and its amphibious ships as its primary means for force projection, and its carrier battle groups/ amphibious ready forces[14] as its basic tactical organizations for that role. And of course Navy force projection forces are also employed in other, often concurrent, fleet tasks such as defeat of the enemy navy and control of the seas.

The United States ended World War II with 23 battleships, 27 attack aircraft carriers (including the 45,000 ton *Franklin D. Roosevelt, Midway*, and *Coral Sea* commissioned at and right after war's end), close to 100 light and escort carriers, and great quantities of amphibious shipping. By early 1950 this force had shrunk to two battleships, 14 carriers, seven of them light/escort, and 945 amphibious ships of the larger types, of which by far the greater part were laid up in reserve.

As the war ended the Navy was planning for its first supercarrier, the flush deck *United States*. Secretary of Defense Louis Johnson's abrupt cancellation of this carrier as a 1949 economy measure triggered the "revolt of the admirals." Heated Congressional hearings on defense policy and organization ensued. With the

[12]Testimony by Gen H.T. Johnson, CincUSTransCom, to Senate Armed Services Committee, March 6, 1991.

[13]Augmenting carrier aviation in force projection would be surface ship and submarine-launched cruise missiles. Indeed, in "The Last Great Air Battle" (Naval Institute *Proceedings*, March 1991, p. 26) VAdm J. Metcalf III, USN (Ret), argues that the success of the cruise missile in the Gulf air war means that "a revolution in warfighting is under way" involving "a possible replacement for the bomber in future conflict." Letters to *Proceedings* will no doubt argue otherwise.

[14]A carrier battle group normally consists of a carrier (in the latest ships the carrier air wing consists some 60 fighter and/or attack and 20-25 other aircraft), an Aegis cruiser, say two to five destroyers or frigates, and a submarine or more; these ships are primarily for the carrier's protection. Two or more carriers with appropriate other ships make up a carrier battle force. One type of amphibious force would be an amphibious ready group (ARG) consisting of a Navy amphibious squadron (PhibRon) of three to five ships and an embarked Marine expeditionary unit (MEU) with a ground combat element of reinforced battalion size and aviation and service support units. Larger amphibious units of similar composition and more ships and Marines are often constituted.

Korean War, 1950-53, and the Eisenhower administration, 1953-60, four 60,000 ton (80,000 tons as loaded for combat) carriers were authorized in FYs 52 through 55.[15] By 1958, the Navy had 15 attack and 11 "support" (antisubmarine primarily) carriers, had commissioned its first helicopter assault ship (*Thetis Bay*), and owned 626 large amphibious ships of which 123 were in the active fleet.[16]

1965 found the Navy with 15 attack and six support carriers, among them *Enterprise*, the first nuclear-powered carrier, and 135 large amphibious ships (active), including *Iwo Jima*, *Okinawa*, *Guadalcanal*, and *Guam*; these were the first amphibious assault ships[17] not converted but built specifically for that purpose.

By 1971 carriers had shrunk to 14 attack and three support; *John F. Kennedy*, delivered in 1968, was the last conventionally powered attack carrier. The *Iwo Jima* (LPH) class amphibious assault ship had grown to seven, and Congress had authorized five improved amphibious assault ships (LHAs), built with well decks to accommodate landing craft. Active amphibious ships amounted to 72, plus 40 LSTs in the hands of the Military Sealift Command.

1975's Navy saw 14 attack carriers and seven LPHs, plus one LHA (*Tarawa*) to be delivered in 1976; LHA 1 was followed one each year through 1980 by LHAs 2-5, making by 1981 12 amphibious assault ships, sufficient lift with other shipping for one reinforced Marine division and aviation wing. FY 1980 saw the first funding of maritime prepositioning ships designed to carry Marine Corps equipment and link up with Marine units moved to an objective area by air. Although the nuclear carriers (CVNs) *Nimitz* and *Eisenhower* entered service in the 1970s and CVN *Vinson* was due in 1982, by 1981 the Carter administration had cut the Navy's attack carrier program to twelve deployable, plus one in SLEP (shipyard "service life extension program," which adds years to a carrier's future).

Then came the Reagan administration, its Secretary of the Navy John Lehman and his drive for a 600-ship Navy, supported by the Navy's "Maritime Strategy" with its orientation on readiness for general war with the Soviet Union. The Lehman years resulted in a program of 15 attack carriers and four battleships[18]

[15] *Forrestal*, *Saratoga*, *Ranger*, and *Independence*.

[16] The statistics here come from issues of *Ships and Aircraft of the US Fleet*, published from time to time since 1939 by various authorities, and from the 1990-91 *Combat Fleets of the World*, published by the US Naval Institute. The figures may not be entirely accurate.

[17] Although these ships look like aircraft carriers, the Navy chooses not to call them such. They are much smaller, have no catapults, and can handle only VSTOL aircraft and helicopters.

[18] Adding CVNs *Theodore Roosevelt* (in service in 1986) *Abraham Lincoln* (in service in 1989), *George Washington* (to be in service in 1992), and programming *John C. Stennis* and *United States* (for delivery in 1995 and 1998). Battleships were *Iowa*, *New Jersey*, *Wisconsin*, and *Missouri*.

each with its contingent of escort combatants. In 1989, LHD 1 (USS *Wasp*) joined the fleet, to be followed in the 1990s by LHDs 2 through 6. *Wasp* is a much-improved version of the *Tarawa* class, with superior communications, 600 hospital beds, and a well deck that can take tank-capable LCACs (landing craft, air cushion).

Spring, 1991, two years into the Bush administration, with the Cold War's demise, and in an era of small defense budgets, the Navy is again shrinking. The "future force" will be 450 ships; deployable carriers will drop to 12; air wings from 13 to 11; battleships go to zero; surface combatants, 177 to 150; and SSN submarines, 93 to 79 (but ballistic missile submarines will drop from 34 to 18). Combat logistics ships drop from 56 to 50, and support ships from 72 to 50. Only the amphibious force stays about the same; modernizing with LHDs, it goes from 61 ships to 59, and the Marines retain their 13 prepositioning ships. (Mine warfare ships gain 50%; they go from eight to twelve.) And with the A-12's cancellation, the Navy has no advanced aircraft in development.

Meanwhile, the structure of both sealift[19] and of distant fleet (and air and land force) bases is changing. Subic is threatened, but other areas like the Persian Gulf will see improved access and possibly some US base development. And new approaches to moving and sustaining all-Service forces may be available.[20]

The Evolution of US Marine Corps Force Projection

The survival virtually untouched of the Navy's amphibious ship program reflects the health of the Marine Corps. US Marines, who live on both the land and sea (and also fight in the air), have prospered over the years.

From ancient times navies have needed soldiers aboard ship, prepared to augment the ship's sailors for a short fight on land. An Elizabethan sage, Dr. John Dee, called for "sea soldiers;" these would be "not only hardened well to brook all rage and disturbance of sea, and endure healthfully all hardness of lodging and diet there... understanding all manner of fight and service at sea..." (but, compared he said to either "fresh-water soldiers" or hastily gathered contingents) "also on land far more trainable to all martial exploits.. more quick-eyed and and nimble at hand strokes and scaling..." This was 1577; trying one arrangement after another Britain in due time created the Admiral's Regiment (1664) and in 1690, two, then four, Regiments of Marines.[21] A hundred years

[19]A Congressionally mandated sealift requirements study is under way in the Department of Defense.

[20]The Regional Conflict Working Group, Paul Gorman, Chairman, in a "Memorandum for the (President's) Commission on Integrated Long Range Strategy," 30 June, 1988, called for reducing base development through reducing requirements for Service support troops, rapid construction of minimum standard facilities, use of offshore mobile platforms, and the like.

later the Royal Navy's marines were its primary source of discipline to cope with mutiny.[22]

Although mutiny was not that sort of problem to the American navy, the new nation created sea-soldiers in the British pattern.[23] The Continental Congress established in 1775 the "first & second battalions of American Marines." Soon after creating in 1798 a Navy Department the Congress legislated a Marine Corps. The Corps' first mission statement, by the Secretary of the Navy, noted the Corps mission—"of amphibious nature"—and added that Marines would perform "any other duty on shore, as the President, at his discretion shall direct." Within six months its Major Commandant had his Corps at full strength, had formed the Marine Band, and was Lieutenant Colonel Commandant. It was not long before Marines were being used in Indian fighting and other roles far from the sea.[24]

Although issues like its reason for being, its status as a separate corps, its place in the US military establishment, and its size, weaponry, and composition have been questioned, even attacked, from 1801 to this day, the Corps has thrived.[25]

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[21]Colonel Cyril Field, R.M.L.I., *Britain's Sea Soldiers* (Lyceum Press, Liverpool, 1924), pp. 10, 14.

[22]In 17th century Britain "land warfare was waged by men organized, disciplined and trained;" but seamen of the time were recruited, often by press gangs, "only for a ship's commission... when no longer required they were turned adrift... By thrusting into naval chaos and confusion a nucleus of disciplined, trained, and organized land troops, an expedient was found... preserving in the varying units (of the Royal Navy) all the essentials of uniformity of system, drill, training, comradeship, and *esprit de corps*" By the mid-18th century, "this force... was the only continuously trained, disciplined, and organized fighting force placed by the country at the disposal of naval officers... When the seamen of the fleet mutinied at the Nore, at the close of the 18th century, and turned their officers out of the ships, the marines, undaunted, stood firm by theirs... Mutiny lurked beneath the deck of many a ship... the natural result of the country's neglect of its seamen. The discipline of the fleet in those days rested on the firm bayonets of the marines." *Encyclopedia Britannica Eleventh Edition* (University Press, Cambridge, 1911), Vol. XVII, pp. 719-720. See also Field, ibid, Chapter XIII.

[23]Calling the word marines "the technical term for sea-soldiers, i.e. troops appropriated and specifically adapted to the requirements of maritime war," the 1911 *Encyclopedia Britannica* says that "this force... is in origin, use, and application peculiarly British. The only other nation possessing a special force discharging exactly similar functions is the United States." Ibid, p. 719.

[24]R.D. Heinl, Jr., *Soldiers of the Sea* (US Naval Institute, Annapolis, 1962), pp. 10-26, 40-43.

[25]Not without fights, again and again from that day to this. Even as the contract for a Marine Barracks in Washington was let in 1801, Thomas Truxton, captain of *Constellation* (who had in 1799 captured the French *Insurgente* in the first battle test of the Navy's new frigates) voiced the idea that, if Marines were needed at all, they should be in detachments wholly under the commanders of naval ships and shore stations—why have a Corps? In 1825 the Navy Commissioners, a board of senior captains headed by another early Navy hero, John Rodgers (Truxton's lieutenant who had secured the *Insurgente* prize), favored abolishing the Corps, and in 1830 President Andrew Jackson himself called for its demise. "With [Marine Commandant] Archibald Henderson active in the background," the Congress did not so dispose and indeed four years later nailed down the Corps' existence and status as part of the naval establishment, and promoted Henderson to colonel. "Thus ended the first outright attempt to abolish the Marine Corps. Congress supported and protected [the Corps] and was destined to do so many times again." (Heinl, op. cit., pp. 38-40.) Over the years, most efforts to abolish the Corps came from within the Navy; in the 1890s some admirals and officers destined to be admirals argued for taking Marines off Navy ships, but legislation got

Having added an air dimension in World War I and exercised it in what they came to call the "small wars" of the 1920s and 30s, the Marines took a decisive turn in their growth in 1933 when the Commandant of the Marine Corps Schools discontinued all classes and placed the efforts of his faculty and students alike on a manual on landing operations. Marine leaders had decided that their corps' future lay in amphibious warfare of the combined arms with air and fleet support, and that organization, doctrine, tactics, techniques, procedures and equipment needed to be pulled together in a common effort.[26] The allies' ability to execute

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nowhere. (Heinl, pp. 101-105) With similar backing from within the Navy, in 1906-10 Presidents Theodore Roosevelt and Taft sought to diminish the Marines or transfer them to the Army; Congress stopped that too (it did no harm that the father of Captain Smedley Butler, twice a Medal of Honor winner and an aspiring future Commandant, was chairman of the House Naval Affairs Committee) (Heinl, pp. 154-157.). Eventually, as the Department of Defense was put into place after World War II, Marines (now joined by the Navy) fought to complete victory their final battle to preserve the Corps. President Truman's proposed National Security Act called for Service roles and missions to be in an Executive Order called the "functions paper." General Vandegrift, Commandant, testifying in the House of Representatives accused those supporting such a plan, identified by Navy/Marine witnesses as Army/Air Force and like-minded believers in a strong Department of Defense, of wanting the Corps "stripped of everything but name." 1949 testimony revealed that General Eisenhower, then Army Chief of Staff, had proposed in the JCS that the Marine Corps "be maintained solely as an adjunct to the fleet;" that it "not be appreciably expanded in war;" and that Marine units be "limited in size to the equivalent of a regiment." President Truman would surely have denied, and General Eisenhower did deny, General Vandegrift's charge that their intent was "to reduce the Marine Corps to a position of studied military ineffectiveness," but in any event the President's proposed legislation failed. By 1952, the Congress had laid out the Marine Corps' place and missions in detail, had fixed its establishment at "not less than three combat divisions and three air wings," and had provided that its Commandant could meet with the Joint Chiefs of Staff whenever he chose (he shortly would be a full-time member of the JCS without restriction). As to the role of Marine Corps forces, the law of 1947 and since has said that the Marine Corps "shall provide... forces... for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign" (emphasis supplied). The 1948 Key West Agreement, which produced the first Department of Defense functions paper added "These functions do not contemplate the creation of a second land army;" that sentence was omitted from the 1958 version. In the American Expeditionary Force there were 43 Army divisions and two Marine brigades (call this a force ratio of 43:1); 90 Army and six Marine divisions saw action in World War II (15:1); one Marine and seven Army divisions fought in Korea (7:1); Vietnam saw seven Army and two Marine divisions (3.5 to 1), as did Desert Storm. 4:1 is the division force ratio in the FY 91-93 defense budget. Notwithstanding such prosperity, Marines continue to see a need to fight for their rightful place; even today in discussions of organizing joint forces for combat, the Marine concern, rarely stated but in the background, is that "the Air Force wants to take over our air and the Army our ground formations and break up our air-ground team" See E. H. Simmons, "The Marines: Survival and Accommodation," cited in *Evolution of the United States Military Establishment Since World War II*, edited by Paul R. Schwartz (Lexington, VA: George C. Marshall Research Foundation, 1978). See also John H. Cushman, *Command and Control of Theater Forces: The Korea Command and Other Cases* (Cambridge, MA, Program on Information Resources Policy, Harvard University, 1986), Chapters IV and V. Marines would have won few if any of their fights for survival had they not established since 1775 a sterling reputation for bravery and mission performance. They are among the best of troops and, as General Vandegrift said in the 1946 hearings, "the bended knee is not a tradition" in their Corps. Heinl, op cit., pp. 516-517.

[26]This was no blinding flash of Marine insight with instant solutions, but rather a common and sustained groping based on the conviction of key Marines that amphibious operations should be the Marines' specialty, but that the state of the art was imperfect at best. See Kenneth J. Clifford, *Progress and Purpose: A Developmental History of the United States Marine Corps, 1900-1970* (Hq, US Marine Corps, Washington, 1973), pp. 41-60.

global amphibious operations in World War II was in good part the result of this 1930s Marine Corps effort.[27]

Post-World War II, the Marines went immediately for the helicopter, applying to its employment in amphibious assault the airborne's term "vertical envelopment." The Navy's amphibious ship development produced a new generation of ships and landing craft. While the landing craft and other special amphibious materiel of World War II and the Korean War could be used as well by Army troops as by Marines, not so today; special-purpose amphibious assault carriers, helicopters, LCACs (landing craft, air cushion) and the like have made preparing Army units above, say, ranger or infantry battalion size for landing from the sea too time consuming. Although no policy paper so states, given that amphibious shipping is limited and Marine units are plentiful, modern amphibious assault is *de facto* the Marines' special preserve.[28]

In the mid-1970s Marine Corps leadership made a decision rivaling in its long-term significance the decision in the 1930s to go for amphibious operations as the Marines' future. Observing that as the Vietnam War ended the Army concentrated its thinking almost entirely on heavy forces and operations in Central Europe, paying little attention to contingency forces for other regions,[29] the Marines with Navy help worked out a concept which would preposition the equipment of Marine units afloat in unit sets, and would airlift unit personnel to airfields near a port, a pier, or a stream in an objective area; there the troops and

[27]A complete story is in Jeter A. Isley and Philip A. Crowl, *The US Marines and Amphibious War* (Princeton University Press, Princeton, 1951). However, the outspoken and irascible Admiral Kelly Turner, Nimitz's amphibious force commander in 1942-45, called the advance drafts of this work "so full of errors and generally so bad historically, that I couldn't stand to work on it any longer... I believe it would be an equally bad thing for the Navy to publish a similar controversial book... No one Service invented amphibious warfare. The Marines contributed much (patterned on Japanese methods) to its development in recent years. But so also did the Navy, including Naval Aviation. Furthermore, beginning in 1940, the Army contributed a great deal. We should not forget that the biggest operation of all—Normandy—was very largely a U.S. Army and British affair." George C. Dyer, *The Amphibians Came to Conquer* (US Government Printing Office, Washington, 1969), pp. 202-203.

[28]Modern amphibious assault begins with clandestine entry by Navy SEAL and/or USMC 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 carriers seize the initial objectives; these are rapidly reinforced by LCAC-borne tanks and other heavy materiel. (LCAC, air-cushion landing craft, are launched from amphibious carriers and other ships). Amphibious ships then bring tracked amphibious assault vehicles and smaller 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 in the early stages; port operations begin upon port seizure and development.

[29]During the 1980s the XVIII Airborne Corps and its units had priority on Army materiel lower than that of V and VII Corps in Europe and I and III Corps Stateside. Thus, for the Gulf War, the M-1 tanks of the 24th Inf Div (Mech), with 105mm tank guns, were replaced with M-1A1s after the division arrived in Saudi Arabia. And plans for fielding Mobile Subscriber Equipment (a cellular communications system) placed divisions of XVIII Corps near the end of the line.

their equipment would link up. (The Army was doing this in Europe for its Stateside Reforger ["reinforce Germany"] divisions. For the Army, unit equipment sets were static; for the Marines they were mobile.)

Following the dictum of General Shoup, its Commandant in the early 1960s, that "Marines are ready to go any time, anywhere, with any kind of transportation and tangle with the enemy," the Navy Department proposed and in 1980 the Carter administration and the Congress funded the first prepositioning ships.[30] Ten years later there were three Maritime Prepositioning Shipping (MPS) squadrons, a total of thirteen ships with civilian crews; one MPS was in the Atlantic, one in the Indian Ocean, and one in the Western Pacific. Using 259 C-141 sorties for personnel and saving some 3,000 C-141 flights by moving equipment by sea, the 7th Marine Expeditionary Brigade (MEB), alerted on 7 August, moved by air from California to Saudi Arabia and there married up with its equipment moved by sea from Diego Garcia. On August 25th it was ready to assume responsibility for defending the approaches to the port of Al Jubayl.[31]

A MEB has no fixed organization; each is tailored to meet the situation. A "full up" MEB might look like this (it is fictional; abbreviations are at **Appendix A**):

14th Marine Expeditionary Brigade

Command Element (Strength: 853)

14 MEB GCE (17th RLT)	14 MEB ACE (MAG-35)	14 MEB CSSE (BSSG-14)
(Strength: 6608)	(Strength: 5910)	(Strength: 3101)
17th Marines (Rein)	VMA-29 (20 AV-8B)	Det, 5 Supply Bn
1-17 Mar Inf Bn	VMFAs-31 & 33 (12 F/A-18D)	Det, 5 Maint Bn
2-17 Mar Inf Bn	VMA-35 (AW) (10 A-6E)	Det, 5 Engr Spt Bn
3-17 Mar Inf Bn	Dets: 6 KC-130; 4 RF-4B	Det, 5 Landing Spt Bn
1-15 Mar FA Bn (Rein)	Dets: 6 EA-6B; 5 OA-4	Det, 5 Mtr Trans Bn
5 AAV Bn	Det: 6 OV-10	Det, 5 Med Bn
A Co, 5 Tk Bn (w/AT Plat)	HMM-37 (48 CH-46)	Det, 5 Dental Co
A Co, 5 Lt Armd Inf Bn	HMH-39 (12 CH-53E)	
A Co, 5 Recon Bn	HMA-41 (12 AH-1)	Naval Support Element
A Co, 5 Cbt Engr Bn	HML-43 (12 UH-1)	(Strength: 500)
	Det HMH (8 CH-53E/20 CH-53D)	
	A Btry (rein), 23 LAAD Bn (Stgr)	**(for meanings of**
	A Btry (rein), 25 LAAM Bn (Hawk)	**abbreviations see**
	Dets/Units for MAG Control	**Appendix A)**

Figure 6. Typical Organization, Marine Expeditionary Brigade

[30]General A.M. Gray, Commandant, USMC, to Senate Armed Services Committee, March 19, 1991.

[31]E.H. Simmons, "Getting Marines to the Gulf," US Naval Institute *Proceedings*, May 1991, pp. 51-54.

A MEB is a medium size MAGTF (Marine Air-Ground Task Force). All MAGTFs have command, aviation combat, ground combat, and combat service support elements (including Navy support elements). The largest MAGTF is a Marine Expeditionary Force (MEF), built around a reinforced division, more or less. The smallest MAGTF is a Marine Expeditionary Unit (MEU), its ground combat element consisting of a reinforced battalion landing team (BLT).

An amphibious MEB (as distinguished from an MPF [maritime prepositioning force] MEB) assault echelon would be embarked in the ships of an amphibious group [PhibGru]. A full-up amphibious MEB such as the 14th MEB in **Figure 6** would require some 25 amphibious assault ships, from amphibious carriers to LSTs, plus shipping for follow-on echelons. An MPF MEB is slightly larger than an amphibious MEB, being heavier in armor and mechanized troops Both type MEBs come with 30 days of supply, all classes.

The Navy/Marine Corps budget for 1993 supports two amphibious MEBs and three MPF MEBs, made up from the Marines' statutory three division/three aviation wing structure.[32]

The Evolution of US Air Force Force Projection

In 1919 the enthusiastic young airmen of the United States Army came home from the Great War. The American Air Service had only seven months of combat and had dropped only 137 tons of bombs. Its aviators had flown mostly in planes built by the French and the British. But they had a vision of a radically new way to wage war. This was the vision of "independent air operations" by an "independent air arm" in the hands of airmen who understood and appreciated this new military weapon.

The thinking of these early airmen was more than operational; it was strategic thinking, addressing how the nation should employ what came to be known as "airpower." In the early 1930s instructors at the Air Corps Tactical School were teaching:

> *"The air force... is capable of taking action which precludes the necessity for seizing and holding the enemy's territory..."*
>
> *"But air forces must be used as a weapon and not as an auxiliary to continue the old methods of warfare. Air forces must be given the principal role..."*

[32]Because the disposition of smaller Marine units (battalions, aviation squadrons) continuously changes as units move with the fleet and for training, these MEBs are capabilities rather than fixed organizations.

The Army airmen's thinking was also organizational; it sought a separately organized and independent air force. That dream soon came to fruition: in 1935 the GHQ Air Force placed all Army combat aviation under one command; in 1942 the Army Air Forces became coequal with Army Ground and Service Forces and the AAF commander was a member of the Joint Chiefs of Staff and executive agent for strategic air forces worldwide; and in 1947 the United States Air Force became a separate Service in its own military department in a unified National Military Establishment.[33]

While the Army handed over its tactical air to the new US Air Force, the Navy and Marine Corps successfully fought to retain theirs. All Services developed their air arms, including the Army with its growing fleets of helicopters and, for a time, light fixed-wing air. The 1940s, 50s, 60s, 70s, and 80s—with the Cold war and two real wars and with US strategy shifts symbolized in terms like "massive retaliation" and "flexible response"—saw conflicts, frequently intense, among the Services over such issues as how to organize for war, how to wage war, and who would prepare forces for what purposes—roles and missions. Much of this had to do with air capabilities and employment. 40 years after losing the Army Air Forces, the Army with the Apache helicopter had its own small tactical air equivalent, and the US Special Operations Command, a kind of fifth military Service, had an air contingent permanently assigned.

In December 1959 the Air Force published Air Force Manual 1-1, *United States Air Force Basic Doctrine*, saying:

> *"The aerospace is an operationally indivisible medium consisting of the total expanse beyond the earth's surface... The aerospace forces of the Air Force—the fundamental aerospace forces of the nation—must be employed in accordance with the precept that neither the forces nor the field of activity can be segmented and partitioned among different interests..."*

This didn't ring true in 1959; "airpower" was already fragmented, far broader than one Service, and it grew more so through 1989. Then came Desert Shield/Desert Storm, and the Commander, Central Command Air Forces (CentAF) was named by General Schwarzkopf the Joint Force Air Component Commander (JFACC)[34] and ordered to wield the airpower of all CentCom's Service forces and that of the other coalition nations as a single entity. A brilliant air campaign made the,

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[33]For a review of Army-Air Force relationships 1920-1960, see Pegasus (my pen name), "The Forty Year Split," in *Army*, issues of July, August, and October 1965.

[34]A US 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.

equally brilliant, air/land campaign five weeks later a military classic. To the JFACC, even the Army's Apaches were "airpower,"[35] guided by USAF PAVE LOW helicopters to take out at low-level in the first minutes of the air campaign Iraqi air control radars reachable no other way without losing surprise. Technology in intelligence systems, aircraft, weaponry, refuelers, communications, and so on, and jointness in organization and in command and control—all unforeseen by 1930's airmen at the Air Corps Tactical School—had came together to make those airmen's vision a reality. It was not an independent air arm, but it was decisive airpower wielded as an entity nonetheless.

US Air Force forces for force projection today include its combat air wings both tactical and strategic, its reconnaissance and other intelligence collecting aircraft augmented by space collectors, its airlift (all of which are assigned to the Military Airlift Command, which is part of USTransCom), and its range of supporting air capabilities such as air logistics, aeromedical evacuation, and search and rescue.

Packaging of tactical air specifically for force projection occurred in the mid-1950s, when the Commander, Tactical Air Command (TAC), argued that tactical air could serve "as a deterrent to the brushfire type of war just as SAC is the main deterrent to a global war." TAC created a nuclear-armed Composite Air Strike Force (CASF), to consist of fighter, bomber, and reconnaissance aircraft with air-refueling and air logistic support including squadron flyaway kits, for rapid movement to distant bases. The 1958 Lebanon crisis saw the deployment of CASF Bravo to support an all-Service force under Admiral James L. Holloway, Jr., which was moving into Lebanon from Europe and the Mediterranean. The CASF's first F-100s, refueling three times en route, arrived in Incirlik, Turkey, 15 hours after their alert at Myrtle Beach, SC.[36]

This concept lives. In Desert Shield, an F-15 squadron of the 1st Tactical Air Wing, Langley AFB, Virginia, was on an airfield in Saudi Arabia ready for action 38 hours after its alert. Five squadrons and an AWACS contingent were there in 2 1/2 more days. And in 1991 the Air Force is moving again to a "composite wing;" it will include "bomb droppers, fighter escort, jamming aircraft, lethal defense suppression aircraft, airborne radar platforms, tankers, airlifters, and the like," many of them "at one base and under one commander."[37]

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[35]As "airpower" has not for years been seen as Air Force-only, so "seapower" is clearly more than naval; an AWACS, or mine-laying B-52, or an Army ranger battalion parachuting onto an island to seize for an MPF MEB's deployment an airfield and port to be developed into an advanced fleet base, can all be seen as "seapower." The terms airpower and seapower, like the more recent "landpower," can perhaps be used in the generation of military forces; they have little value in thinking about the forces' employment. "All-Service forcepower" might be a better, albeit cumbersome, term.

[36]R.F. Futrell, Volume I, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force, 1907-1960* (Air University Press, Maxwell Air Force Base, AL, 1989), pp. 450, 611-612.

Theater airlift came into its own in World War II with operations like those over the "hump" in the China theater and the support of Patton's columns in France. The 1947-48 Berlin airlift dramatically confirmed airlift's potential; its commander, Major General William H. Tunner, took command of the Military Air Transport Service (MATS), which the Secretary of Defense created in 1948. Although MATS was named in 1956 as single manager operating agency for air transport and in 1966 was renamed Military Airlift Command (MAC), airlift remained for years fragmented in Service commands. Finally, in 1974 the Air Force placed both its tactical and strategic airlift under MAC, and in 1976 the Secretary of Defense directed that MAC, which now included most Navy and Marine Corps transport,[38] would be a specified command under the Secretary of Defense.[39] In 1987 MAC became a component of USTransCom.

For Desert Shield/Desert Storm, MAC's active duty airlift fleet of 70 C-5s, 218 C-141s, and 170 C-130s was augmented by aircraft from the Air Force Reserve and Air National Guard to make up a total of 109 C-5s, 234 C-141s, and 450 C-130s; these were reinforced in turn by the Civil Reserve Air Fleet of 17 wide-bodied passenger and 21 cargo aircraft plus other US and foreign transports. USTransCom's commander, General Hansford T. Johnson, USAF, has described airlift's performance in Desert Shield/Desert Storm: "(It) has surpassed the effort of any deployment in history. By the end of six weeks of operations, they had logged more than 700 million ton miles, exceeding that of the 65-week-long Berlin Airlift.... (At their height) 127 planes landed daily... averaging one arrival every 11 minutes around the clock. An airlift of this magnitude can only be accomplished though an integrated airlift system...."[40]

In 1973 General George S. Brown, Air Force Chief of Staff, and his Army counterpart, General Creighton W. Abrams, under whom Brown had served in Vietnam, were determined to continue in peacetime the spirit of their teamwork in combat. They directed a partnership between TAC and the Army's TRADOC (Training and Doctrine Command), who in turn set up a jointly manned Air/Land Force Application office. ALFA began producing a series of manuals on Army/Air Force tactics, techniques, and procedures; in due time the US Readiness Command, charged with training Stateside Army and Air Force formations in joint operations, joined the effort. In May, 1984, General John A. Wickham, Jr., Army

[37]General M.A. McPeak, Chief of Staff, USAF, to Senate Armed Services Committee, March 19, 1991.

[38]The Navy retains some fleet logistics squadrons and the Marines possess KC-130 tankers.

[39]Futrell, op. cit., Volume II, *Ideas, Concepts, etc. 1961-1984*, pp. 10-21.

[40]To Senate Armed Services Committee, March 6, 1991. General Johnson also commented on the C-17 advanced transport, programmed to replace the aging C-141 for which deliveries ended in 1968. "(The C-17's design allows it) to move large quantities of equipment, munitions, fuel, and outsized cargo directly to forward areas... over a greater distance than either the C-5 or C-141... If we had had the C-17 in place of the C-141 during Desert Shield... in the first 12 days alone we could have carried an additional three F-15, three F-16, three F-4, and three A-10 squadrons plus two light infantry brigades."

Chief of Staff, and his Air Force opposite number, General Charles A. Gabriel, surprised the military world at a press conference in which they announced that, after thirteen months of work by their two staffs, they were embarking on a program of even closer integration of their two Services' forces in battle, to be known as "The 31 Initiatives" and addressing systematically issues of air defense, close air support, airlift, intelligence, and so on.[41]

To manage resolution of these issues, most of which were farmed out to their staffs or to command agencies for resolution, Generals Wickham and Gabriel formed a Joint Force Development Group (JFDG) directly responsible to their two operations deputies.

Meanwhile, the Armed Services Committees of the House and Senate, unhappy with the performance of the Department of Defense, were moving toward 1986 enactment of Goldwater-Nichols, which specifically assigned the Chairman, JCS, responsibility for "developing doctrine for the joint employment of the armed force... formulating policies for the joint training of the armed forces... assessing military requirements for defense acquisition programs...." In 1987, the JFDG went out of business, its activities having been folded into like efforts of the Joint Staff.

The product of this Army/Air Force/Readiness Command cooperative development of tactics, techniques, and procedures,[42] in which Navy and Marine Corps people sometimes joined, and of the follow-on work sponsored by the Joint Staff's J-7 Directorate whose scope includes joint doctrine, duly worked its way into the unified commands. Among those was US Central Command, and when General Schwarzkopf found himself engaged in preparing his forces for the liberation of Kuwait he also found practical points of departure for that endeavor in what the Services had done both individually and by working together.

Spring 1991 sees the Air Force with three major force projection materiel development programs under way—the B-2 bomber, the Advanced Tactical Fighter, and the C-17 transport—and with "global reach—global power" its message.[43]

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[41] *The 31 Initiatives* by Richard G. Davis (Office of Air Force History, Washington, 1987) describes Army-Air Force cooperation and lack of it from 1907 through the 1984 Wickham-Gabriel agreement.

[42] The word "doctrine" was avoided; some believed that it tended to raise issues of Service policy/theology rather than practical matters of how to fight.

[43] Six B-2s, operating from the United States with the support of six tankers, could conduct an operation like the 1986 Libya raid—which utilized two carrier battle groups, an Air Force F-111 squadron, and numerous supporting assets. Only a few highly survivable aircraft would be placed at risk. The 1986 operation involved 119 aircraft and 20 ships. And long range bombers could execute such operations without reliance on forward bases or overflight rights." White Paper, "The Air Force and US. National Security," by the Secretary of the Air Force, June 1990.

The Evolution of US Army Force Projection

When the Berlin Wall fell in November 1989, the US Army and Air Force could have been forgiven for saying "We won!" They had maintained in Central Europe for forty-plus years an air/land force that countered the Soviet air and land threat and that by keeping the peace eventually permitted the weaknesses of the Soviet's economic and social systems to undermine its military power. But any such celebration would be short-lived. Both Services took immediate deep cuts: in four years or so the Air Force would go from 24 to 15 active wings and from 571,000 to 437,000 people, and the Army's active divisions would fall from 18 to 12 and its people from 770,000 to 536,000. Both Services would enter the 90s living on considerably fewer dollars than they had disposed of in previous years. As hot wars had in the past ended with deep force and budget reductions, so for those two Services ended the Cold War.

It reminded older Army observers of the Korean War's aftermath and of the Eisenhower administration's New Look. The Soviet threat existed then, but both in Europe and elsewhere that threat was to be countered by the threat of air-nuclear massive retaliation. Indeed, in the mid-1950s, Admiral Arthur W. Radford, President Eisenhower's new JCS Chairman, recommended in the JCS that Army deployments in Europe and Asia be reduced to small atomic task forces and that Army Stateside strength be drastically reduced. Although this idea was disavowed by Secretary of Defense Wilson, Army divisions declined from 15 to 11, including four in Europe.

General Maxwell D. Taylor, Army Chief of Staff, countered the nuclear emphasis with a call for readiness for "limited war" but concurrently ordered a reorganization of Army infantry and airborne divisions to a "pentomic" configuration, in which five battle groups replaced three three-battalion regiments, and the division's artillery included the Honest John nuclear-capable missile. He also organized the Strategic Army Corps, to consist of two airborne divisions (the 82d and 101st) and an infantry division, urging that the Air Force provide sufficient airlift to move that force to trouble spots in a timely fashion. (Meanwhile, Navy/Marine Corps thinking was offering the fleet with its Marines as the primary force for brushfire wars.)

With the adoption in 1961 by the Kennedy administration of much of General Taylor's thinking on flexible response and with the 1961 Berlin crisis, tactical air forces, airlift, and Army special forces received a shot in the arm. Army divisions, reorganized back to a more traditional configuration, grew to sixteen. Encouraged by Secretary of Defense McNamara, the Army in 1962 organized the experimental 11th Air Assault Division with its hundreds of helicopters, then in

1965 deployed it to Vietnam as the First Air Cavalry Division. When the Vietnam War wound down in the early 1970s, the Army turned its attention to Europe. Believing that the October 1973 Yom Kippur War had confirmed a need to be ready for high-intensity armor combat, the Army undertook the rebuilding and reinforcing of the European Army. The training and readiness of its heavy forces became the Army's overriding concern.

In 1972 the 82d Airborne Division's 3d Brigade and the full 101st Airborne Division returned from Vietnam. In 1973 the 101st, newly formed as an air assault division with more than 400 organic helicopters, lost its one-brigade parachute capability; there was now only one airborne division in the structure. Returning divisions like the 1st Cavalry and 24th Infantry became armored or mechanized divisions when formed Stateside. Although the 82d, 101st, and 24th made up the XVIII Airborne Corps, which was the Army's rapid reaction force, contingency plan thinking and capabilities took second place in the Army of the 1970s.[44]

Upon becoming Army Chief of Staff in 1979, General Edward C. Meyer sought to correct this emphasis by forming a "high technology light division" (HTLD) test bed for experimentation at Fort Lewis, Washington, in which the 9th Infantry Division was the experimental unit and its commander concurrently commanded the Army Development and Experimentation Agency (ADEA) responsible directly to the Chief of Staff. Meyer's aim was to short-cut development time for materiel and to produce rapidly a division that could move (to, for example, the Persian Gulf) using far less lift than an armored/mechanized division but carrying considerably more fighting power than an airborne division. Four years later a new Chief of Staff, General John A. Wickham, came up with a different idea: the more air-deployable (but less powerful) light infantry division. Three light divisions soon appeared in the Army structure and the HTLD/ADEA notion, unpopular with the Army's doctrinal/materiel establishment in any event, shrank in importance and eventually withered away.[45]

General Carl E. Vuono, Army Chief of Staff since 1987 but before that the Commander, TRADOC, made his mark on the Army by training the force he inherited and improving its readiness. The scene was ready. A decade of effort

[44]I observed the mid-1970s Army from two vantage points, as commander of the 101st Airborne Division, 1972-3, and as commander of the Army's Combined Arms Center (CAC) and commandant of the Army Command and General Staff College in 1973-76. CAC was TRADOC's primary field command for developing operational concepts and instruction.

[45]The HTDL idea suffered from other handicaps. Light armor was not popular with the Europe-oriented, who believed it could not take on Soviet-style armored formations. The division's force mix and employment concepts depended on materiel which was not available. The division's concepts did not stabilize, nor did they capture the enthusiasm of senior Army people. And, in this observer's opinion, the concept failed to exploit battlefield air mobility and attack helicopters.

had produced shelves of, Europe-oriented but comprehensive, training literature; budgets of the Reagan years were filling the Army's heavy forces with new materiel; the National Training Center at Fort Irwin, California, was in full operation exercising armored and mechanized battalions. And, thanks among other factors to his predecessor at TRADOC eight years earlier—General William R. Richardson, who had planted at the Army Command and General Staff College (Fort Leavenworth, Kansas) a second-year course for selected graduates of its one year course conducted by a School of Advanced Military Studies (SAMS)—the operational thinking of the Army, still Europe-oriented but not entirely so, had undergone a renaissance which General Vuono encouraged and exploited. Fort Leavenworth became the site of frequent senior commanders' seminars on "campaign planning" and "the operational art," for which seminars the SAMS faculty and students provided scenarios. Using warfare simulations which pitted Army commanders in the field from corps to battalion against a "world class OPFOR" (opposing force) a CAC-managed Battle Command Training Program regularly exercised the Army's field formations. And the graduates of SAMS, each having received a classic military education and each immediately assigned to a division, corps, or higher echelon planning staff, began to influence the Army's, and others', thinking in the field.[46]

Operation Just Cause, Panama, December 1989, produced gratifying results directly attributable to these efforts to strengthen operational performance.[47] And Desert Shield/Desert Storm continued the tradition.

During the Vuono years, the Army transferred its special operations forces to the US Special Operations Command (USSoCom), which was mandated by the Cohen-Nunn Amendment to the FY 1987 Department of Defense Authorization Act and was established April 1987 at MacDill AFB, Florida, to unify all CONUS-based special operations forces under one command.[48] All Army Stateside special forces groups, ranger battalions, and psychological operations/civil affairs units along with related schools and headquarters went to SoCom, as did similar Air Force and Navy special operations capabilities.[49] Each unified command has

[46]From its early days SAMS included students of other Services. The Marine Corps and the Air Force have each instituted a similar second-year course.

[47]General Maxwell R. Thurman, Commander in Chief, US Southern Command, headquarters in Panama, who was responsible for Operation Just Cause, had recently been Commander, TRADOC, and an organizer and participant at General Vuono's seminars. Just Cause was however not a full-up all-Services operation. The warfighting joint task force (17,000 Army, 3,400 Air Force, 800 Navy, and 900 USMC) was built on the XVIII Airborne Corps and was essentially Army-run.

[48]Special operations are operations conducted by specially trained, equipped, and organized DOD forces against strategic or tactical targets in pursuit of national military, political, economic, or psychological objectives. These operations may be conducted during periods of peace or hostilities. They may support conventional operations, or they may be prosecuted independently when the use of conventional forces is either inappropriate or infeasible. (Joint Pub 1-02, p. 339)

a special operations "component"—similar in concept to the Service components assigned to unified commands and supported by SoCom, by SoCom's Service components, and by the Services. Pacific Command (PaCom) and European Command (EuCom) enjoy a substantial special operations force structure; each is commanded by a brigadier general. SoCom, commanded by an Army four-star general, is unique among unified commands in that, much like a military department or Service, by law it receives appropriated funds for research and development, procurement, and operations and maintenance. SoCom has carried out scores of materiel development projects, many of which are applicable to the Services' forces; examples: inflight helicopter refueling, the small, highly mobile and armed, "dune-buggy" vehicle (itself adapted from the 9th Infantry Division's initiatives), radios, and night vision and navigation equipment.[50]

The Army is looking at a twelve active division force in 1995, visualizing that four will be "forward deployed"—two heavy divisions in a corps in Europe, an infantry division in Korea, and a light infantry division in Hawaii. Five would be "rapidly deployable" from within the continental US—one light infantry, one airborne, one air assault, and two armored/mechanized. Three more would be "reinforcement" armored/mechanized divisions, each with a National Guard "roundout" brigade which Army leaders want to have adequately prepared so that upon callup it can be ready in one month for deployment to combat with its parent division. Army Reserve and National Guard units will provide a very large part of the nondivisional combat support and service support for the twelve active division forces, and post-mobilization reinforcing divisions.

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[49]U.S. Marine Corps units are not assigned to USSoCom. However, the Commandant, USMC, has designated certain Marine Expeditionary Units Special Operations Capable [MEU (SOC)]. These general purpose units are not categorized as core special operations forces, but rather receive enhanced training and are specifically equipped and organized to conduct missions related to special operations.

[50]Although a multi-Service organization, the US Special Operations Command comes under this treatment of the evolution of US Army forces for force projection both because it is very much "Army" and because it illustrates a characteristic that seems peculiar to the Army, namely the ability time and again to generate capabilities from within itself which later move outside to help enrich the rest of the world. The United States Air Force with its air and space accomplishments since 1907 is an example, but there are others: Fort Severn, donated in 1845 to Secretary of the Navy Bancroft, so that he could establish at Annapolis, Maryland, a US Naval Academy; the nation's first modern service for observing and reporting weather, which became the Department of Agriculture's Weather Bureau in 1891; the Manhattan Engineer District which in 1942 produced the first nuclear chain reaction, in 1945 tested the first atomic weapon, and by 1949 had evolved into the US Atomic Energy Commission; the Army Transport Service, larger by far than the Navy's equivalent, which went under the Navy's single-management in 1948 and was later amalgamated; the Redstone Arsenal space and missile development team of the Army Ordnance Corps which in 1958 became the basis for the National Aeronautics and Space Administration; military governments after World War II which put Japan and Germany on their feet; and (not to speak of a President or two) a Secretary of State who earned through his Marshall Plan the Nobel Peace Prize. Not to go overboard on the point but, looking at these examples and at phenomena like that of the tiny SAMS and its effect, this observer sees the Army as a kind of yeasty substance which, like sourdough bread, can be used but which always saves enough for another starter.

The Evolution of Joint Mechanisms for Force Projection

In World War II both the Army and the Navy owned and managed their own sea and air transportation. The Air Force upon becoming separate managed its own air transport. All Services managed land transportation for their needs. The 1949 and 1954 Hoover Commissions were sharply critical of these arrangements, and in 1956 the Secretary of Defense created three single managers: the Military Traffic Management Agency (MTMA, under the Army), the Military Sea Transport Service (MSTS, under the Navy), and the Military Air Transport Service (MATS, under the Air Force).

Despite a series of studies recommending further consolidation, no action was taken until JCS exercises Nifty Nugget in 1978 and Proud Spirit in 1980 made clear that something must be done. In 1982 the JCS unanimously recommended combining MTMA and the Military Sealift Command (MSC, the successor to MSTS), but Secretary of the Navy Lehman fought this idea in the Pentagon and in Congress. The Senate Armed Services Committee's FY 1983 authorization bill then prohibited any consolidation of the transportation commands, and for two years DoD requests for the repeal of this language were rejected. In 1986 the President's Packard Commission recommended "a single unified command to integrate global air, land, and sea transportation" and Congress in Goldwater-Nichols repealed the law prohibiting consolidation. US Transportation Command (TransCom) was activated in October 1987 and came fully into its own in Desert Shield/Desert Storm.

Meanwhile the JCS were seeking to provide force projection planning with automated support which would track units' readiness status, transportation needs, and so on and would rapidly calculate movement times for various conditions. In the 1970s JOPS (Joint Operational Planning System) introduced software to support deliberate planning. In 1980 the JDS (Joint Deployment System) began to do the same for crisis planning; its first user was the Joint Deployment Agency, established in 1979 by the JCS at MacDill AFB, Florida, under the US Readiness Command to plan, coordinate, and monitor sea and air deployments from the United States in a crisis situation.[51]

In 1982 the JCS initiated development of JOPES (Joint Operational Planning and Execution System) which would combine JOPS and JDS into a single system. Existing only in developmental form when the Persian Gulf crisis erupted in August 1990, JOPES performed satisfactorily. The JOPES initial operational capability (IOC) is August 1992, at which time JDS and JOPS will go away.

[51]JDA functions moved to USTransCom on the latter's activation in 1987.

Implementation of Goldwater-Nichols in the JCS and OSD has had its effect in force projection in a crisis situation. No longer is the Joint Staff required to go through the "flimsy, buff, green" process of staff action, in which the Service staffs have a crack at a paper at successive stages. Necessary Service and unified command coordination takes place through normal staff procedures and action moves swiftly. Operation Just Cause, Panama, December 1989 was the first use of the new procedures in a serious crisis action; they did well.

Unified command is itself a joint mechanism for force projection. From Vera Cruz in 1847, through the Civil and Spanish-American Wars, and indeed up to December 7, 1941, when their inadequacies were catastrophically revealed, the governing themes in inter-Service command relationships were "cooperation" and "paramount interest"—in which the Service with paramount interest would be responsible—and there was no provision for unified Army-Navy command responsibility.[52] Evolution from World War II through Goldwater-Nichols in 1986 has essentially solved the command problem at the unified command level and increasingly at levels below that Goldwater-Nichols reforms have also affected the staffs of unified commands, not only by codifying and increasing the authority and responsibility of unified commanders but also by fostering the development of joint staff officers. A strengthened JCS exercise program, including frequent "no-notice" exercises, is credited with producing improved proficiency in crisis action force projection operations across all unified commands.

Supporting the Chairman, JCS, in his new responsibility for "developing doctrine

[52] *Unification of the Armed Forces*, a study for the Chief of Military History, Department of the Army, by (then) Lieutenant Colonel Lawrence J. Legere, Jr., US Army, undated but evidently written about 1953, gives in its Chapter I a fascinating account of how Army-Navy cooperation or the lack thereof took place from the American Revolution through World War I. In the Revolution, "the actions of the Continental Navy, the State navies, and the American privateers were romantic and morale-raising, but it was the participation of the French Navy which furnished the major contribution of seapower to the American victory..." General George Washington, commanding the Continental Army, suffered mightily as he sought unity of action with the French admirals d'Estaing and de Grasse, especially with the latter whose intent to leave the Chesapeake for sea in September 1781 just as Washington was encircling Cornwallis at Yorktown caused Washington to "earnestly entreat" de Grasse to hold to the original plan—which he did (pp 3-12). One of the Civil War's most interesting examples is that of the competition between the Union Army and Navy forces on the scene as to which would be in charge of a 1863 attempt to take Fort Sumter in Charleston harbor. "Dahlgren [Navy] to Gillmore [Army], 2:30 p.m.: 'I am going to assault Fort Sumter tonight.' Gillmore to Dahlgren, 6:55 p.m.: 'Your dispatch, by signal, stating that you intended to assault Fort Sumter tonight, was received by me an hour after I had dispatched my letter by one of my aides informing you that I intended the same thing... There should be but one commander... I have designated two small regiments. Will your party join them, the whole to be under command of the senior officer...?' Dahlgren to Gillmore, 7:10 p.m.. 'I have assembled 500 men, and I cannot consent to let the commander be other than a naval officer...' [After further such message traffic] The Army assault never materialized but around midnight the naval party left to storm the fort. A few boats managed to land, but their crews were all killed or captured. The remainder of the force was beaten off with heavy losses." (pp 31-32). A roughly equivalent tale from the Spanish-American War, involving more senior commanders and their Washington superiors as well, is that of Major General William R. Shafter and Rear Admiral William T. Sampson in their operations at Santiago de Cuba, May-July 1898. (pp. 48-54).

for the joint employment of the armed forces", the Joint Staff's J-7 (Operational Plans and Interoperability) Directorate has since 1987 managed a comprehensive program for writing joint doctrine. The tasks of drafting the various manuals are farmed out to a Service or to a unified command, and a review process insures that all concerned parties can comment on the drafts before they go to the Chairman, JCS, for final approval in consultation with his JCS colleagues. Of interest in force projection are, among others, the joint manuals being developed on contingency operations, low-intensity conflict, campaign planning, airlift, sealift, joint logistics-over-the-shore, amphibious operations, landing force operations, and amphibious embarkation.[53]

Throughout this century, whenever writers of doctrinal literature of two or more Services sit down to write a formulation for working together, a major preoccupation has been to write the rules for "command." **Figure 1**, page 12, for example, does not begin to convey the difficulty of defining what authority flows down the various solid and dotted lines when a unit box has more than one line leading to it, especially when one party or another becomes ornery about it.

Defining command relationships in amphibious operations is especially an art form. The reason: they take place at the boundary between the land and sea domains, each of which has its own ways of command.[54]

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[53]Writing doctrine is not easy. On one hand, authors tend to get carried away and become far too prescriptive; on the other hand detailed prescription of joint tactics, techniques, and procedures is often essential, as in fire support, embarkation techniques, or procedures to assign frequencies for interoperable communications. J-7's doctrinal scope includes techniques and procedures as well as "doctrine." Joint Publication 1-02, itself a doctrinal manual, defines joint doctrine as "Fundamental principles that guide the employment of forces of two or more Services of the same nation in coordinated action toward a common objective." I have long believed that a better definition is in the April 1953 *Dictionary of Army Terms* (SR 310-5-1). It reads: "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. Essentially, doctrine is that which is taught. A doctrine is basically a truth, a fact, or a theory that can be defended by reason."

[54]It was simple in the old days. Then (except for a major landing like that of Scott at Vera Cruz, where command arrangements were worked out case-by-case on the spot by the Army and Navy commanders) the landing force consisted of sailors and Marines from the ship's company, a ship's captain or one of his officers commanded on sea and on land, and operations did not involve today's panoply of combatant and support ships and air support. From "The Landing-Force and Small-Arms Instructions, United States Navy," 1912: "Each ship and squadron shall have a permanently organized landing force... [which] must be as large as possible, and shall be formed from the fighting divisions of the ship, including the powder division... Captains or commanders will be detailed as brigade and regimental commanders; lieutenant commanders as battalion and artillery battery commanders... The marines of a squadron shall be posted on the right of the line... Lookouts, with glasses, should be sent aloft on all ships to scan the beach and to report by signal... the positions and movements of the enemy before, during, and after landing... The beach having been sufficiently cleared by artillery, and by fire from the covering-ships, a portion of the infantry with the scouts is landed and at once deployed. It is followed by the main body. The regiment [in its ships boats] is formed in line, facing the beach... The lines then advance, a rapid fire being maintained, and as soon as the boats of the firing line strike the beach each company deploys skirmishers at once and makes a rush for a point or position which should have been designated by the company commander while approaching the beach..."

Goldwater-Nichols has ameliorated many formerly aggravating issues of joint command and organization, simply by providing unequivocally that the unified commander can assign command and establish relationships as he sees fit for the accomplishment of his mission. Now, when he, for example, establishes a Joint Force Air Component Commander (JFACC), as did General Schwarzkopf in the Gulf war (see page 47), not only does he have joint doctrine to assist him in defining the JFACC functions but he has the command clout to say to his

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The 1927 "Landing Force Manual, United States Navy" (including "a new addition containing the latest combat principles developed and adopted by the Army for various Infantry and machine-gun units.. [to] assist officers in the conduct of a landing force" and "brought... into agreement with the present United States Army Training Regulations") retained the concept of a landing force commanded by a Navy officer, stating that "each ship, division, and fleet shall maintain a permanently organized landing force, consisting of infantry, artillery, machine-gun, and other units... The organization will be flexible, so that all or any part may be landed, at the discretion of the senior officer present... For a ship of the first rate [the landing force] consists normally of two platoons of marines (infantry), one company of bluejacket infantry, two platoons of bluejacket artillery, machine-gun units and special details... For parades and ceremonies the marines will be placed on the right of the line in their battalion, regiment, or brigade, according to the method of organization. In actual operations on shore they will be placed where directed by the officer in command of the forces; and in mixed detachments of forces composed of seamen and marines serving on shore, the senior line officer of the Navy or of the Marine Corps shall command the detachments." It became clear that assigning Navy officers to an additional duty as regimental and battalion commanders, and bluejackets as combined arms soldiers, would not work; in 1936 the US Marine Corps "Tentative Manual for Landing Operations" provided for the first time that a ["The"] " Fleet Marine Force will normally form the landing force, and the Commanding General, with part of his staff, preferably should be embarked on the flagship of the commander" of "a specially organized task force of the Fleet under the immediate command of a flag officer of the Navy who will direct the employment of all forces participating in the landing operation." The Fleet Marine Force is an administrative and training organization today; its function described in 1936 was in World War II and has since been performed by Marine or Army troop formations—regiments, brigades, divisions, or corps. Experience in amphibious operations around the globe in World War II led to increasingly documented details for embarkation, deployment, assault, and supporting forces. Joint doctrine today continues the basic command and operations concepts of 1936, expanding their detail in such terms and concepts as (from Joint Pub 3.02.1 [Test]): Commander, Amphibious Task 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) ("either an Army or Marine officer who is in overall charge of the landing forces [which may include aviation units] 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."); Termination of an Amphibious Operation ("when in the opinion of the landing force commander: the force beachhead has been secured... sufficient tactical and supporting forces have been established ashore to ensure the continuous landing of troops and materiel requisite for subsequent operations... command, communications, and supporting arms coordination facilities have been established shore... [and] the CLF has stated that he is ready to assume responsibility for subsequent operations. When the CATF and the CLF are satisfied that the aforementioned conditions have been met, the CATF will report these facts to the higher authority designated in the initiating directive. This authority will then terminate the amphibious operation, dissolve the amphibious task force, and provide additional instructions as required, including command arrangements and dispositions of forces." While each unified commander can organize and employ his assigned forces as he sees fit, all commanders find it useful to have these techniques and procedures ("doctrine") not only laid out in detail but also well understood by the forces by virtue of their previous training.

subordinates, "Make it work!"

Options for the Future, and Implications

Saddam Hussein's invasion of Kuwait found the United States with an impressive array of force projection forces and high-technology weaponry which had been built during the Reagan years largely to fight the Soviets but—the Soviets having gone away as an ominous threat—were available to deal decisively with Iraq. This, in a partnership with other nations' forces, those forces convincingly did. Bringing them home, some for inactivation, the US faces the challenges of reshaping, while building down, its force projection forces for whatever portends in the next decade and more.

The President has said what kind of force projection forces he wants:

> *"[forces]...in existence [and] ready to act...[with] speed and agility..." "forces that give us global reach..." troops that are "well-trained, tried, and tested—ready to perform every mission we ask of them..." "a new*
>
> *emphasis on flexibility and versatility..." "...readiness must be our highest priority."*

And he has made clear that he wants them to be affordable under tightly constrained budgets.

Even in a rapid build-down, the *kinds* (not necessarily the *numbers*) of forces available change slowly, they change only at the margins, and even then they change only with money (and when money is short that means trade-offs, often unpleasant for the one who comes up short in the trade). Let's look at two options for reshaping force projection forces; call them the *conservative* and the *radical* approaches.

The conservative approach says "keep on doing what you're doing, only do it better." The radical approach says "let's look at a dramatic change in what you have been doing." (There is of course a zone of options between these extremes.)

For either approach one imperative would be, allowing for some latitude in the forecast, to arrive at a generally agreed assessment of what the world scene will likely be in the 1990s and beyond and then to optimize capabilities within resources across the range of military challenges.

For the Navy the **conservative approach** could be in August 1992 to lay on

schedule the keel for the nuclear-powered USS *United States* and to commission that carrier in 1998, foreseeing that she will be in the fleet in 2038 AD, available to project catapulted high-performance Navy tactical air in distant scenes for 40 years. Thus, in 1998 nine carriers would be nuclear-powered. With this plan would go a stealthy substitute for the cancelled A-12 and the acquisition over the years of other catapulted high-performance aircraft, plus a mix of surface ships and submarines to match the carriers. A conservative approach would call also for continued modernization of the amphibious force, foreseeing that a new and bigger version of *Wasp* would begin to enter the fleet in the late 1990s after the last of the *Wasp* class joins. Buys of improved Marine-flown Harrier-like VSTOL aircraft would also go with this approach.

— The **radical Navy approach** might be to say: *"As the USSR fades as a threat, who will be the enemy and how high-tech will be his fleet? Haven't we reached the cost and size limit of high-tech aircraft catapultable from a ship at sea? So let's go VSTOL for the sea-based air of the 21st century. Let long-legged land-based air do the stealthy deep and air-to-air stuff (but use sub-launched cruise missiles too). We'll build Stennis; it's already been laid down, but that's the last giant carrier. After Wasp, let's build an amphibious assault ship that is an even better "Harrier carrier" and that both Navy and Marine aviators can fly an even better Harrier off of, and let's see what we can make of that in some scenarios of the future."*

For the Marine Corps, the **conservative approach** would be: "Continue to march with two amphibious MEBs and three MPF MEBs out of a three division/wing force. Except for being denied right now the V-22 Osprey, which we badly need but which Congress might give us anyhow, we're doing just fine."

— The **radical Marine approach** might be: *"No more 'tracks over the beach;' let's drop the AAV (amphibious assault vehicle) replacement and see if SecDef will move the money to the Osprey. Let's put aviation technology to work and use LCACs and the Osprey to get us and our fighting equipment ashore from over-the-horizon without getting our feet wet. Ashore, let's as in the past work with Army and Air Force formations under joint command, but even more closely."*

The Air Force's **conservative approach** would be: "Modernize tactical, strategic, intelligence collecting, EW, and airlift air; increase range, payload, and weapons accuracy; improve our munitions. That's what we have been doing for seventy years, and it's done well by us. And let's figure on the global reach of air power, including the Advanced Tactical Fighter and B-2 bomber, and spacepower to

reinforce local force projection; that's also been our approach for years."

— A **radical Air Force approach** might be: *"Go VSTOL, especially for front-line and near-front-line air support. And offer, with USAF land-based fixed wing air of the future, not only to support but to help protect the fleet in integrated Navy/Air Force operations.*

The Army's **conservative approach** could be: "We've got our force mix about right. Equipment-wise, let's fight during the 1990s to field the LHX (light helicopter, experimental) and the APG (armor-protected gun, the Army's term for a lighter tank). And let's fight for more airlift and sealift, including the mobile prepositioning of unit sets as the Marines have done."

— The Army's **radical approach** might be: *"We stay with 12 active divisions, but aside from a couple of divisions in Europe and maybe one in Korea, our future is air/sea rapid deployment. Let's work with the Air Force, using the C-17 to modernize airborne/airlanded operations, and leave assault from the sea to the Marines. Let's follow SoCom's example and make our helicopters self-deployable with refuelers over thousand-mile legs or more. Let's go for more and better fast sealift ships for our heavy forces. Revisiting the processes of the high technology light division (HTLD) but doing it better this time, let's convert the light infantry division in Hawaii to an airborne/air assault/airlanded/air supported strike force for distant forcible entry, getting them there more rapidly than amphibious forces can. Let's work with the Special Operations Command to knit our respective forces together along the indistinct line that separates the two.* ***And let's go all-out joint; we can't do any of this by ourselves.***"[55]

We can look at the implications of these two kinds of approaches in terms of pressures from above and pressures from below. Pressures from below start with the Service constituencies which each Service has. **Figure 7** makes a stab at

[55]All the Services are saying this last, underlined. I place it here under the Army's "radical approach" as a way to make the point that the Army, especially, could do well to shift fundamentally its approach to writing doctrine and to teaching at its Service schools by looking at all operations from the viewpoint of the theater and JTF commanders, and describing what these people would expect from Army forces at their best. This would require a far greater treatment of the other Services, not in a lip-service mention of their importance as "sister Services" but in genuine treatment, in detail, of how Marine Corps, Navy, and Air Force forces interact with Army units on the battlefield and what Army units and commanders need to know and do about that. It should also include describing for commanders of division and corps-sized JTFs, who might be Army officers either double-hatted in command of their own formations or pure joint commanders, what is expected of them as they direct the operations of multi-Service formations. This need not infringe on the turf of those responsible for joint doctrine; it could in fact be a considerable help to them. If doctrine is viewed as "what makes sense" or "what usually works best," joint and Army doctrine could well converge and all concerned would be better served. A place to start with this approach might be in formulating the Army's "umbrella concept" known as AirLand Battle-Future (ALB-F). There is no doubt, however, that this would indeed be a radical approach.

identifying them (each reader can formulate his own).

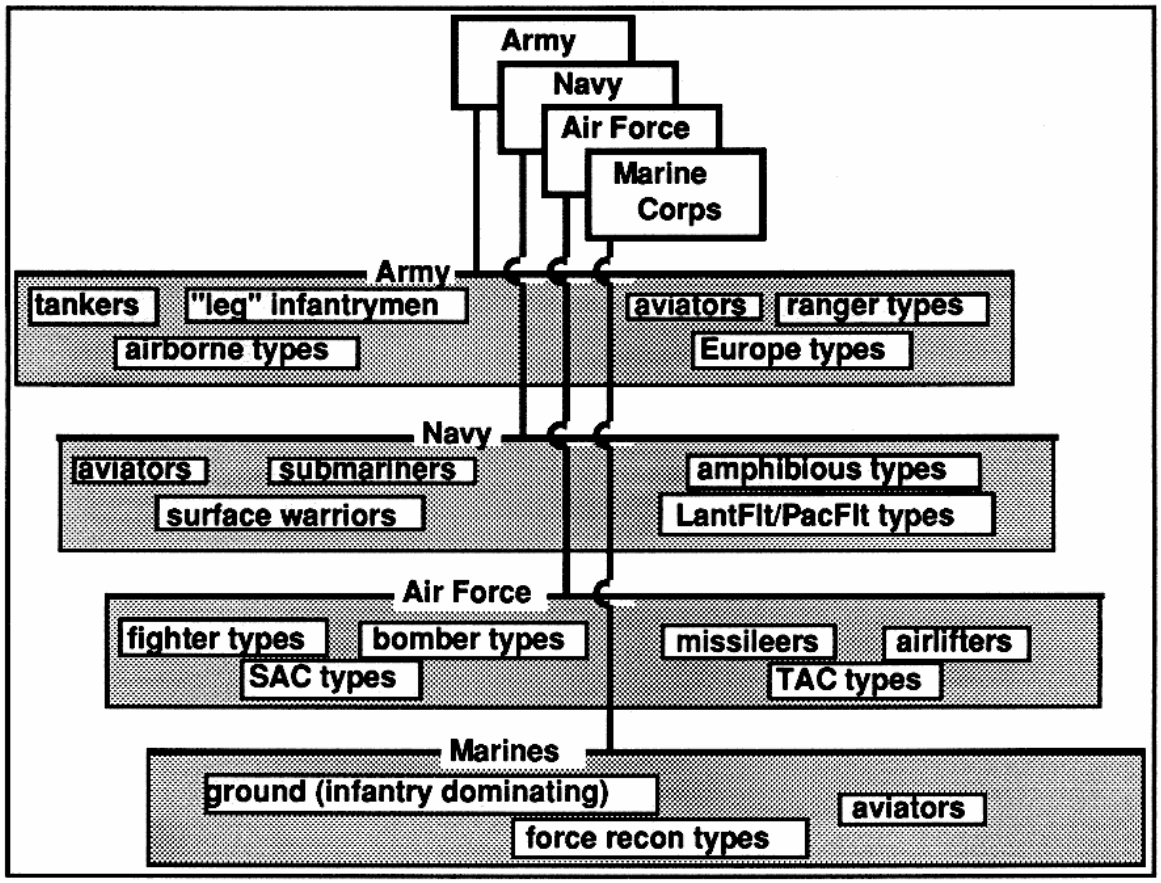

Figure 7. Service Constituencies

Each constituency argues for its point(s) of view from its centers of influence and using its advocates in medium or high places. Service generalists look across all constituencies. Resources are finite, so someone has to decide. Deciding is old hat for the Services. Each does it every year in its budget processes. Sometimes one or another Service "Mafia" (carrier, TAC, Europe, etc.) prevails, but everybody salutes and there are winners and losers until the next time around. A radical approach may mean boosting one constituency and disappointing another; but if it means a Service's survival over time, the radical may turn out to have been the conservative approach.

Figure 8 shows (top) how the Services, after reconciling, got their resources before there was a Secretary of Defense, and (bottom) how Goldwater-Nichols, 1986, says the Services are to get their resources now. The difference: then the Service Chiefs

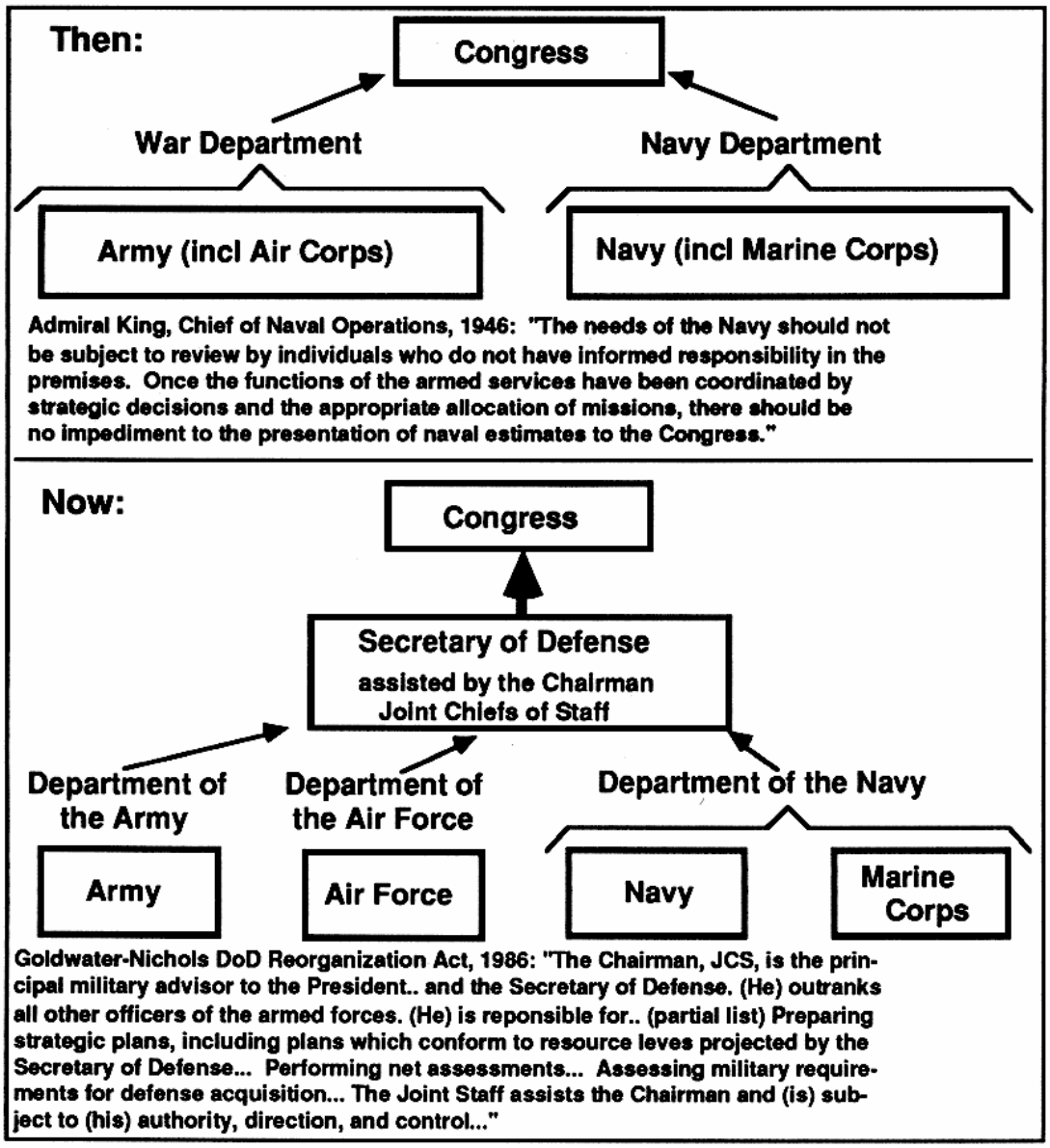

Figure 8. Decision-Making above the Services, Then and Now

reconciled for Congress the views of their constituencies; now the Services are constituencies, to be reconciled for Congress and (conforming to a law of the Congress) by the Secretary of Defense assisted by the Chairman, JCS. (Of course, the President is in there, both then and now.) The biting question: Precisely what should the JCS Chairman/Joint Staff do for the Secretary of Defense, and how should he/they do it?

This is a biting question because decisions can be wrong. The Army went for the pentomic organization in 1956 only to reverse itself three years later; the Navy downplayed minesweepers in the Lehman buildup to its later regret when called on to escort reflagged Kuwaiti tankers; the Air Force in the 1950s neglected

conventional weaponry when national policy ordered reliance on massive retaliation;[56] Whether due to faulty higher guidance, or to lack of thought among a constituency, or to bad judgment at a decision point, a bad Service or higher decision can be dangerous—even disastrous as it was for the French people and nation in 1940.[57] It is such considerations as these which lead some to question military judgment as final in these matters and to fear a so-called Armed Forces General Staff. On the other hand, it is fortuitous to have done it right, or almost right, as in the years before Desert Shield/ Desert Storm the right mix of forces was put into place for a Gulf war in which time was available.

The implication of the conservative set of Service options, above, is that there will be no great strain on the Chairman/Joint Staff. Service proposals will come up and be duly processed to fit within the budget, with much of the action taking place in OSD.

The implication of the radical set of Service options above, or any set of radical departures which the Services do not initiate, is that it requires an activist Chairman and Joint Staff. To go radical, the Chairman has two solutions: One, keeping the Secretary of Defense and his civilian-side staff informed and with the backing of the Secretary of Defense, develop instructions for the Secretary to issue from above. Or, two, keeping the the Secretary of Defense and staff informed and with his backing, work with his JCS colleagues toward bringing them and their constituencies around, at least so that all will salute the Secretary of Defense and get on with it.

There is another implication: Going radical can be more likely to get more suitable force projection forces with the same money, better meeting the President's criteria (page 59) for the same money. But going radical could also mean going wrong, going in without a safety factor or margin for error; the conservative approach could be safer. The aim should be careful optimization of capabilities, within resources, across a well-calculated range of potential requirements so that all important needs are reasonably covered. Easy to say, but hard to do; everything depends on the quality of insight in the decision-

[56]When the national policy dictated reliance on massive retaliation, Air Force development became heavily concentrated in the strategic/defense area. In fact, nearly all of the available resources were consumed in satisfying these overwhelming requirements. These were 'lean years' for tactical developments, and particularly conventional weapons." Lt Gen James Ferguson, Air Force deputy chief of staff for research and development, before the House Subcommittee on Appropriations, 89th Congress, 2d Session, (Hearings of 1966, pt 5:386.)

[57]Robert A. Doughty, The French Armed Forces, 1918-40, in *Military Effectiveness*, edited by Allan R. Millett and Williamson Murray (Boston, Allen & Unwin, 1988), Volume II, pp 39-69. This three-volume study of the (political) military effectiveness of seven nations in each of three periods, sponsored by the Director of Net Assessment, Office of the Secretary of Defense, is rich in examples of not having it right in the generation of military forces.

making process. If in its own way that quality matches the Desert Shield/Desert Storm performance by pretty much the same cast of characters, the country will be the winner.[58]

Whether radical, or conservative, or a mix, along with the development of the forces and their interoperability interfaces there will go issues of command and control.

[58]Collegiality (operating as colleagues) is essential. The National Security Act of 1947, even as amended, says that its purpose is to provide for "an efficient team of land, naval, and air forces but not to establish a single Chief of Staff over the armed forces nor an overall armed forces general staff" and Goldwater-Nichols says that "The Joint Staff shall not operate or be organized as an overall Armed Forces General Staff and shall have no executive authority." Careful!

Chapter IV. Issues of Organization and Employment

Operation Precision Strike

Deciding the makeup of future force projection forces and the arrangements for their command and control requires considering the forces' organization and employment. Operation Precision Strike, which is a scenario I developed in 1990 for use in instruction in the Joint C3 Staff and Operations Course at the Armed Forces Staff College, can shed light on issues of organization and employment.[1]

The setting for Operation Precision Strike was in and around Redland, a large island nation of the Greater Antilles archipelago in the Caribbean Sea. The combatant command was US Atlantic Command; for instructional purposes its forces were fictional, yet lifelike. (This locale permitted the fictional employment without mobilization of sizeable all-Service forces and the surfacing of a full set of C3I issues and problems that arise in large joint operations.)

Redland, which has by far the strongest armed forces in Latin America, is a police-state dictatorship of the Marxist-Leninist type, heavily supported until the late 1980s by the USSR, although that relationship has cooled. Eighteen months ago Redland's dictator died; his successor, Pedro Gomez, shot and stabbed his way into power. Gomez, who has a paranoid fear and hatred of the United States, is given to reckless and unpredictable action. Redland's isolation, chronic economic difficulties, and growing internal discontent have led to increasingly irrational behavior by Gomez, including threats to the US naval base at San Angelo on Redland's southeast coast.

About a year ago, Gomez became convinced that the United States was determined to invade his country and that he could no longer rely on a weakened Soviet Union to prevent a US invasion. Gomez decided to develop a nuclear capability of his own. This he did secretly, with the help of Iraq and North Korea.

On October 1, 199X, the Central Intelligence Agency reported: "A reliable and credible source in Redland reported today that eight fixed SSM sites, each containing one missile with nuclear warhead, are nearing completion in the mountains north of Trinidad." The Joint Chiefs of Staff, the Services, and the unified commands began crisis action procedures. Two days later the existence of the eight fixed SSM sites was confirmed.

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[1]Precision Strike scenario development was too far along to benefit from Desert Shield/Desert Storm. I have modified the scenario as delivered to AFSC so as to simplify and sharpen presentation and discussion of issues.

On October 3 the Secretary of Defense told the Chairman, JCS, to prepare a military option to decisively eliminate Redland's nuclear missile capability and that "the President wants to be able to execute this military action not later than 10 October, and he wants total secrecy. Gomez may suspect that something is up, but we want him not to have a clue what it is."

Commander in Chief, US Atlantic Command (CinCLant) is the executing commander ("supported" commander in JCS terminology). Guidance to CinCLant includes:

- The overriding requirement is to eliminate the SSM-nuclear sites. At the same time, we must (1) deter Redland action against San Angelo and (2) deter Redland sponsorship or conduct of terrorist or other attack on United States territory.
- The operation will be a high precision "surgical strike". At least one course of action will include a major lodgment on Redland territory, from which, if the above deterrence fails, the U.S. can decapitate Redland leadership, defeat or neutralize Redland armed forces, and institute a new government.[2]

On 5 October, the President approved the CinCLant course of action portrayed below.

JTF Redland will execute the operation. JTF Sierra, a joint special operations task force, will take out the missile sites. JTF West will make the lodgment. JTF East will be prepared to reinforce or retake the San Angelo naval base. TF Alfa is JTF Redland's Air Force component. TF November is its Navy component. CinC, Atlantic Fleet, with an augmented staff, will be double-hatted as Cdr JTF Redland. **Figure 10**.

[2]This element of the guidance to CinCLant was inserted so as to lead to student consideration and ultimately to choice of a lodgment operation, thereby producing an instructional vehicle which raised issues of organization, employment, and C3I relevant to large multiservice operations in general, while being fairly plausible withal.

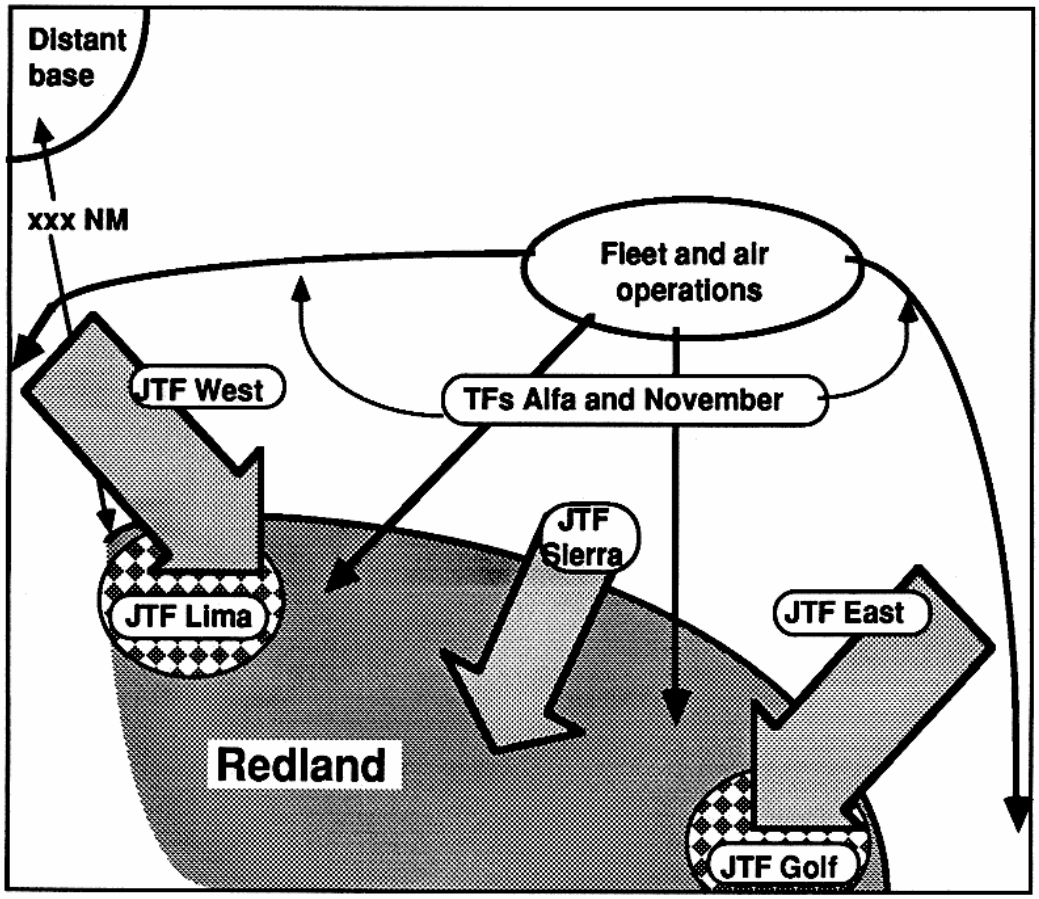

Figure 9. Operational Scheme, JTF Redland

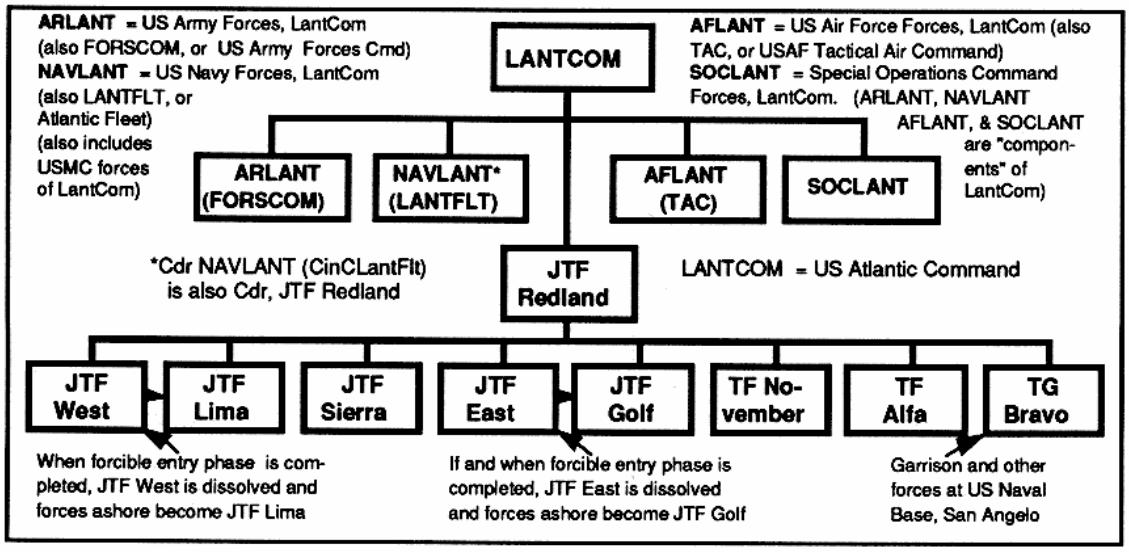

Figure 10. Organization of LantCom and JTF Redland

JTF West, which includes a Marine Expeditionary Brigade and a Navy amphibious group, is an all-Service formation built around the XXI Airborne Corps with all or parts of three of its divisions.[3] **Figure 11** is a sketch of the JTF West area of concern.[4]

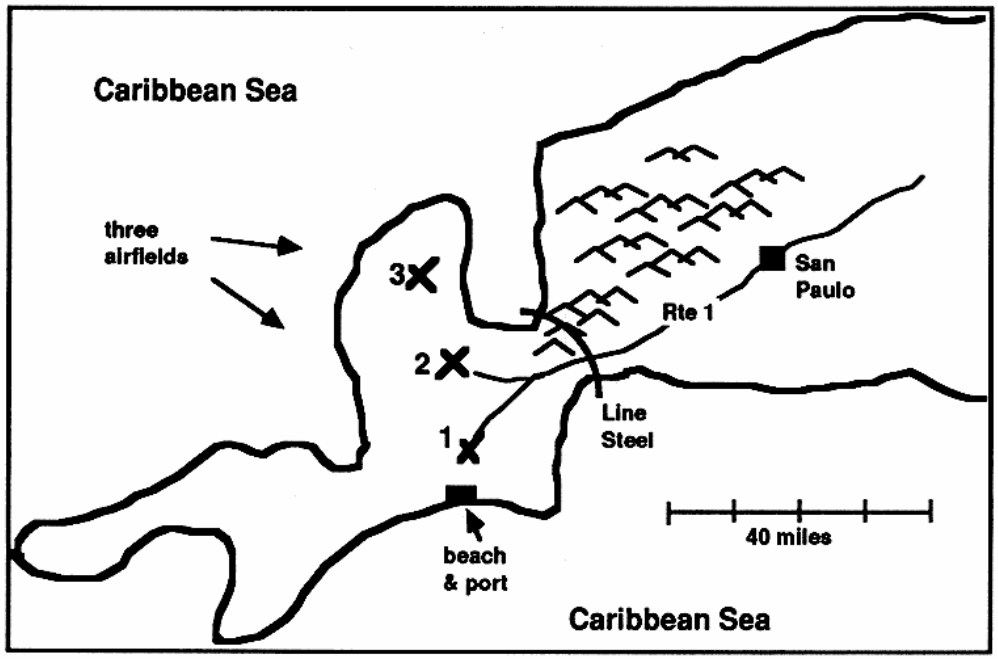

Figure 11. Area of Concern, JTF West

Issue: Doctrine for Forcible Entry

Goldwater-Nichols says that the commander of a unified command can "...organiz(e) commands and forces... (and) employ... forces within that command as he considers necessary to carry out missions assigned to the command...."[5] While these words offer considerable latitude, in practice what is written in joint doctrine will guide the CinC in organizing and employing his forces. Let's imagine that the J-3 (staff officer for operations) of US Atlantic Command (USLantCom) is saying to CinCLant:

> *"Sir, we have a problem. In JTF West's lodgment, the 14th Marine Expeditionary Brigade (MEB) will make an amphibious assault to take the beach and port, with an airborne ranger battalion opcon to take Airfield 1. Two brigades of the 102d Airborne Division will make an airborne assault*

[3]JTF East is likewise all-Service, built around V MEF and including a brigade of the 102d Airborne Division.

[4]Redland geography is redrawn to create a bay so that the lodgment area peninsula is separated from the region to its east by a neck of land ten miles wide, thereby making this a feasible lodgment plan, and by adding a port, beach, and nearby airfield, which provided an interesting requirement for an amphibious operation.

[5]Goldwater-Nichols, op. cit. Sect. 164 c.

to take Airfields 2 and 3. When the amphibious ships and assault transport aircraft have put these and other forces safely ashore, they will go away; the forces on the ground then become JTF Lima. Cdr JTF Lima will be the CG XXI Airborne Corps. He says that JTF West's lodgment is not an amphibious operation but is a forcible entry operation with both amphibious and airborne components,[6] and that he should be Cdr JTF West. Your Army component commander, CG ForsCom, supports that position.

"However, the Cdr JTF Redland, who is also CinCLantFlt, says that JTF West's lodgment is an amphibious operation supplemented by an airborne operation and that joint amphibious doctrine should apply. That says that JTF West is a joint ***amphibious*** *task force, hence must be commanded by a US Navy officer."[7]*

CinCLant: "What does the doctrine for forcible entry say?" J-3: "Sir, there is no joint doctrine for forcible entry."[8] CinCLant: "Well, I agree with CG ForsCom and Cdr XXI Airborne Corps that, although there is an amphibious assault in this operation, this is not an 'amphibious operation;' it is a 'combined amphibious and airborne operation,' with airborne the larger element, for which the only available doctrinal term is 'forcible entry operation.' By any reasonable definition, forcible entry operations can be amphibious-only, or airborne-only, but they will, like this one, most often call for fleet and tactical air operations, airlift and sealift, and a

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[6]Military doctrine consists in part of accepted definitions. Repeating the definitions from the footnote, page 4: "Forcible entry: Military lodgment by air, land, and/or maritime forces in the face of armed opposition. Amphibious operation: An attack launched from the sea by naval and landing forces, embarked in ships or craft involving a landing on a hostile shore. Airborne operation: An operation involving the air movement into an objective area of combat forces and their logistic support for execution of a tactical or a strategic mission. The means employed may be any combination of airborne units, air transportable units, and types of transport aircraft, depending on the mission and the overall situation." By definition, forcible entry can be either amphibious, airborne, or a combination of the two. By definition, an amphibious operation is "launched from the sea" (to include ship-based helicopters). The fact that in Precision Strike the 14th MEB has opcon of an airborne ranger battalion indicates that an amphibious operation can have an airborne adjunct (albeit smaller in this case than the ship-to-shore element.)

[7]See extract of Joint Pub 3.02.1 (Test) in the footnote, twenty lines up from bottom, p. 48. Seniority is not the issue; doctrine states that, even though junior in grade, a Navy officer always commands an amphibious task force.

[8]Doctrine for forcible entry is embryonic. The draft "Test Pub," dated January 1990, of Joint Publication 3-0, *Doctrine for Unified and Joint Operations*, contained the first definitions on the subject in joint doctrinal literature:

force entry operations—The introduction of an aggregation of military personnel, weapon systems, vehicles, and necessary support, or combination thereof, embarked for the purpose of gaining access through land, air, or amphibious operations into an objective area. Force entry into an objective area may be opposed (forcible entry) or unopposed (administrative deployment).

forcible entry—Military lodgment by air, land, and/or maritime forces in the face of armed opposition. (Note: the terms "air," "land," and "maritime" were not defined in this Test Pub.) By late summer 1991 these definitions should be appearing in an approved Joint Pub. Approved joint doctrine for forcible entry will remain even then a long way off and its writing will be no easy matter.

mix of amphibious and airborne/ airlanded forces (and special operations forces as well)—with much of the force coming under a single commander. This is a new doctrinal field and, while a void exists, I am sure we can prepare a workable forcible entry plan that follows sound military principles. Tell Cdr JTF Redland and his people to come up with a scheme for the lodgment for me to look at."

Issue: Command of Special Operations Forces

The J-3 complies. He returns shortly, saying:

> *"Sir, we have another problem. Cdr JTF Redland can make only ten amphibious ships available to JTF West's MEB; a like number is required for JTF East. That's enough for a tank-heavy three battalion (equivalent) landing force over the beach but not enough to lift a Marine battalion to seize Airfield 1* (**Figure 11**, page 70) *Cdr JTF West wants to place a reinforced ranger battalion from Special Operations Command (SoCom) under the MEB; it would seize the airfield in an airborne assault. CinC, Special Operations Command (CinCSoc), has agreed to provide one.*
>
> *"Cdr JTF West also wants special forces teams to be placed into position in the network of roads (shown as Route 1 in the sketch) out as far as San Paulo, where some Redland armor and mechanized reinforcements are located. These special forces would delay the movement of those Redland reinforcements and report their locations to the troops who will be defending Line Steel. CinCSoc has agreed to provide those special operations forces. He will also provide AC-130 gunship and other support to the ranger battalion and special forces teams.*
>
> *"The problem is that Cdr JTF West wants the ranger battalion and special forces units under his opcon now, while he is planning his operation. CinCSoc disagrees. As you know, he is creating JTF Sierra, the Joint Special Operations Task Force (JSOTF) which with air support will enter Redland and take out the missile sites. A SoCom major general will command the JSOTF; he becomes opcon to you today. CinCSoc wants that major general to do all planning for special operations forces, because of their special nature, including that for the ranger battalion and special operations forces of JTF West. Then, at about H-hour minus ten hours on D-Day, we would chop (change opcon of) these latter units to Cdr JTF West.*

CinCLant: "How did General Thurman as CinCSouth (Commander in Chief, US Southern Command) handle SoCom forces in the December 1989 Panama operation?" J-3: "Essentially the same way CinCSoc is proposing here."

CinCLant: "That's the way we'll do it.[9] I will chop the JSOTF to Cdr JTF Redland right away. Tell Cdr JTF Redland to be sure that the Cdr JSOTF works closely with Cdr JTF West in the planning phase and that Cdr JTF West is satisfied with the plan and with his opcon arrangements for the execution phase."

The J-3 went on to say that the use of special operations forces in Desert Shield/ Desert Storm seems to have taken the Just Cause concepts somewhat further toward closely integrating their operations with those of other forces. Evidently under the command of a ranking officer reporting directly to General Schwarzkopf, special operations forces performed a wide variety of tasks: deep reconnaissance, search and rescue, direct action against important targets, psychological operations, securing the US Embassy in Kuwait City, and the like. By some accounts, certain detachments were placed directly opcon to the VII and XVIII Corps for deep missions in those corps' sectors.

Issue: Command of 14th Marine Expeditionary Brigade

Again the J-3 returns, saying:

> *"Sir, we have yet another problem. This one has to do with the opcon of the 14th MEB. Referring to the sketch here, the plan of Cdr JTF West is as follows: JTF*
>
> *West will execute the amphibious and airborne assaults simultaneously; H-hour is 0200. (Special operations forces, airborne pathfinders, and Marine special recce units will go in at H-6 hours.) Supported by tactical air from the fleet and Tenth Air Force, Cdr JTF West aims to quickly seize the three airfields and the port, and by early afternoon to have strong forces on Line Steel. The JTF West objective area extends some 40 miles east of Line Steel. With tactical air and special operations blocking forces Cdr JTF West intends to keep the enemy away from Line Steel until his forces are in a strong defense there.*
>
> *14 MEB reinforced by the 1/79th Ranger Battalion will seize the port, the nearby beaches and Airfield 1. The MEB will move a strong Marine tank-infantry-antitank force, three battalions equivalent, rapidly to defend the southern half of Line Steel. Cdr JTF West wants to have these 14th MEB*

[9] In Operation Just Cause, which came under US Southern Command, planning for the employment of special operations forces (AC-130 gunships; SEALS; Army ranger units; and special forces detachments) took place directly under USCinCSouth with assistance from CinCSoc and his components. The senior special operations planner and force commander was a major general; the commander and most of the forces were provided by SoCom. When execution began, command of that contingent, under its major general, passed to the commander of the "warfighting JTF" which had been built around the CG, XVIII Airborne Corps.

troops in place on Line Steel and the MEB command post operating ashore in the early afternoon.

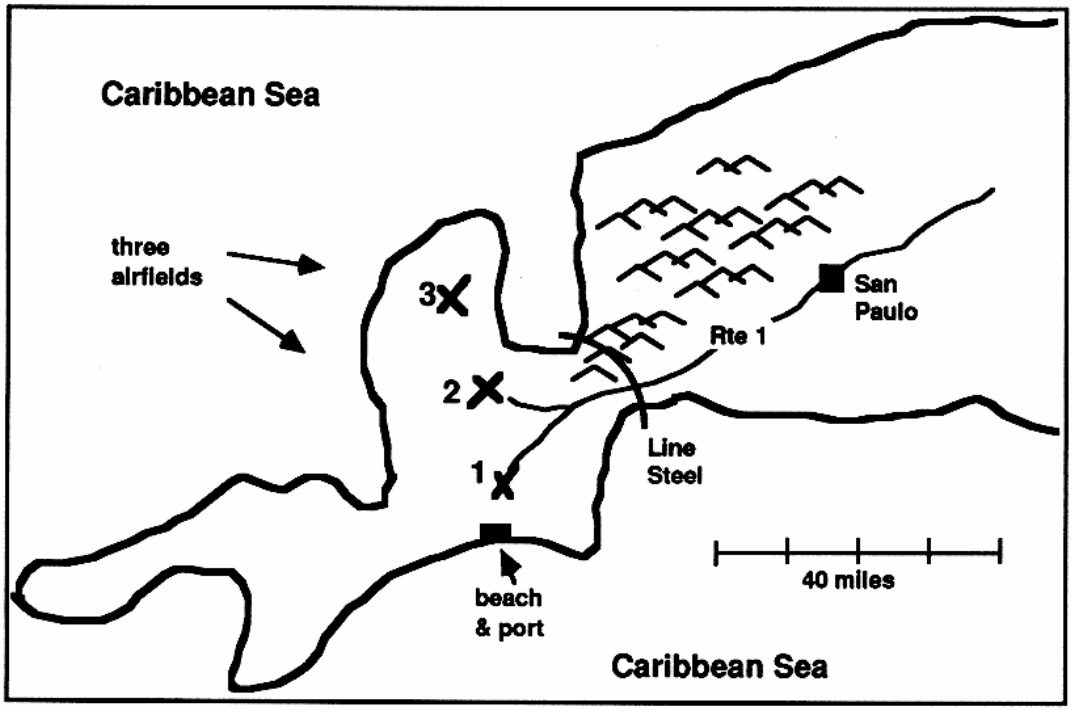

Figure 12. Sketch of Operations Area

"One brigade task force (1/102) of the 102d Airborne Division will seize Airfield 2; a second brigade task force (2/102) will seize Airfield 3.[10] *Cdr JTF West expects airlanded operations to begin no later than dawn; on Airfield 2, the first airlanded troops will be a brigade task force (2/47) of the 47th Air Assault Division. Reinforced with two self-deployed Apache*

[10]Airborne forcible entry requires air supremacy in and enroute to the objective area and depends on teamwork, detailed planning, and surprise. Troops are marshalled at departure airfields; the airlift flow into these and out to the objective area conforms to the operational plan. 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 multiple launch rocket system (MLRS) artillery support. Assault objectives will include one or more airfields capable of airlanding follow-on troops and equipment. Immediately upon airfield seizure, USAF aerial port detachments and Army support units organize the airlfields for quick airlift turnaround and rapid clearing. Ramp and taxiway space can be a limiting factor on the number of aircraft handled per hour. 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. Army force packages for forcible entry consist of combat (e.g., infantry, armor, attack helicopter), combat support (e.g., field artillery, air defense, aviation, chemical, intelligence and EW, combat engineers), and combat service support (e.g., supply, maintenance, medical) forces, along with their embedded C3I and special C3I units (e.g., signal, formation headquarters). Force packages are tailored to meet the situation.

attack helicopter battalions of the 47th Air Assault Division, that brigade task force will secure the northern zone of Line Steel; Cdr JTF West wants them in position by mid-afternoon. He intends then to place the 14th MEB opcon to the CG 47th AASLT Division for the coordinated defense of Line Steel.

"The problem is that the CG 14th MEB believes his brigade should not be opcon to an Army division but directly to JTF West. In this he is supported by your senior Marine, the CG FMFLant (Fleet Marine Force, Atlantic)."[11]

CinCLant: "Ask CG FMFLant to come over so we can discuss it." On arrival, CG FMFLant spoke his mind:

"Admiral, a Marine Expeditionary Brigade like all Marine Air-Ground Task Forces is organized and trained to fight as an air-ground unit. It comes with its organic aviation, including fixed wing [12] *Its power comes in large part from the coordinated application of combined arms and aviation. It has weapons (such as Hawk air defense missiles) unlike any Army division. It has a sophisticated system of air-ground command and control. The afternoon of D-day, part of the brigade, i.e. its AV-8B Harriers on USS Wasp offshore, will still be afloat. A MEB is not a simple three battalion Army brigade; it's more like an Army division. Frankly, I'm not sure an Army division commander would be familiar enough with it to employ it properly. To break up the MEB would be to risk making it less effective. I recommend keeping it directly under JTF West command."*

CinCLant: "J-3, explain the thinking of Cdr JTF West to me."

The J-3:

"Sir, his viewpoint is very simple. He wants unity of command on Line Steel. As JTF commander he has many concerns other than the detailed conduct of Line Steel's defense. He wants to assign that mission and the forces to be engaged to the CG 47th Air Assault Division in whom he has full confidence. I understand that he intends to recommend to the CG 47th AASLT Division that he designate the CG 14th MEB as deputy division commander in addition to his duty as MEB commander, for maximum battlefield teamwork."

CinCLant: "Well, I'm glad to know of this issue and of the views of FMFLant. But,

[11]There are no "good guys" or "bad guys" in these vignettes. All viewpoints make sense in one light or another; personalizing the discussion shows interestingly that there are options and decisions all along the way.

[12]Figure 6 (page 45) shows the organization of a typical MEB. The 14th MEB differs among other features in that it has two, not three, infantry battalions and two (possibly more), not one tank companies.

in truth, the matter needn't have come to me. Cdr JTF West has opcon of his forces; that means he can organize them and employ them just about as he sees fit to accomplish his mission.[13] In this case, I agree with his thinking. But, even if I did not, I would not second guess the commander with mission responsibility. J-3, how does Cdr JTF Redland see it."

J-3: "Like you he did not want to overrule Cdr JTF West. But, in his other hat—as CinCLantFlt, where he is the boss of CG FMFLant—he is generally sympathetic to the latter's view and he wanted you to know about the issue. He'll be satisfied with your decision."

CinCLant: "OK, pass the word. And when you have a chance, check how the Army's armor brigade worked the problem under I MEF in Desert Storm."[14]

Issue: Command and Control for Cdr JTF West

Complying, the J-3 returned later, saying:

> *"Sir, the Cdr JTF West wants to use USS Wasp as his command ship for the assault phase and until he can establish his command post and necessary communications ashore. Wasp is the flagship of Cdr PhibGru 8 (PhibGru 8 consists of ten amphibious ships). He is the one-star admiral who will be Commander Amphibious Task Force (CATF) for the 14th MEB assault. Wasp is also the afloat command post of the CG 14th MEB, Commander Landing Force (CLF), until he moves command ashore. As you know, Wasp is well fitted out with communications; it might make a fine command ship for a larger force."*

CinCLant: "What's the problem?" The J-3 replies:

> *"We've never done anything like this before, namely use an amphibious command ship for an essentially Army operation. We're not sure that Wasp has the communications needed for command and control of this kind of airborne/airlanded forcible entry. Cdr JTF West says that it is better than anything the Army or Air Force has; otherwise he will have to use an airborne command post until he parachutes himself and a small CP into the objective area during what may be a critical phase of the*

[13]operational control "...normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions... [It] does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or training." Joint Pub 1-02, op. cit., p. 263.

[14]Opcon of the 1st Brigade, 2d Armored Division (Tiger Brigade), to the 2d Marine Division in battle was essentially trouble-free. It would not have been if the two formations had not had weeks to prepare and get to know one another.

operation. His plan is to run the forcible entry operation from Wasp with a small command group and a skeleton ASOC (USAF air support operations center) until he moves ashore. Meanwhile he would parachute a tactical command post and a second skeleton ASOC to a location vicinity Airfield 2 at H+1, with an airlanded echelon to follow. When that command post is ready to take control of the operation he will move his command group and key ASOC people from Wasp to its location. He visualizes that this may be as early as end-D-day."

CinCLant: "Again, PhibGru 8, including *Wasp*, belongs to Cdr JTF West. He can use *Wasp* as he wishes. Give me a report on his communications arrangements."[15]

Issue: Mass in the Objective Area, JTF West

After passing that word, the J-3 returned:

"Sir, here (**Figure 13**) *is the organization of JTF West. I have shown the movement means for each element of the force.*

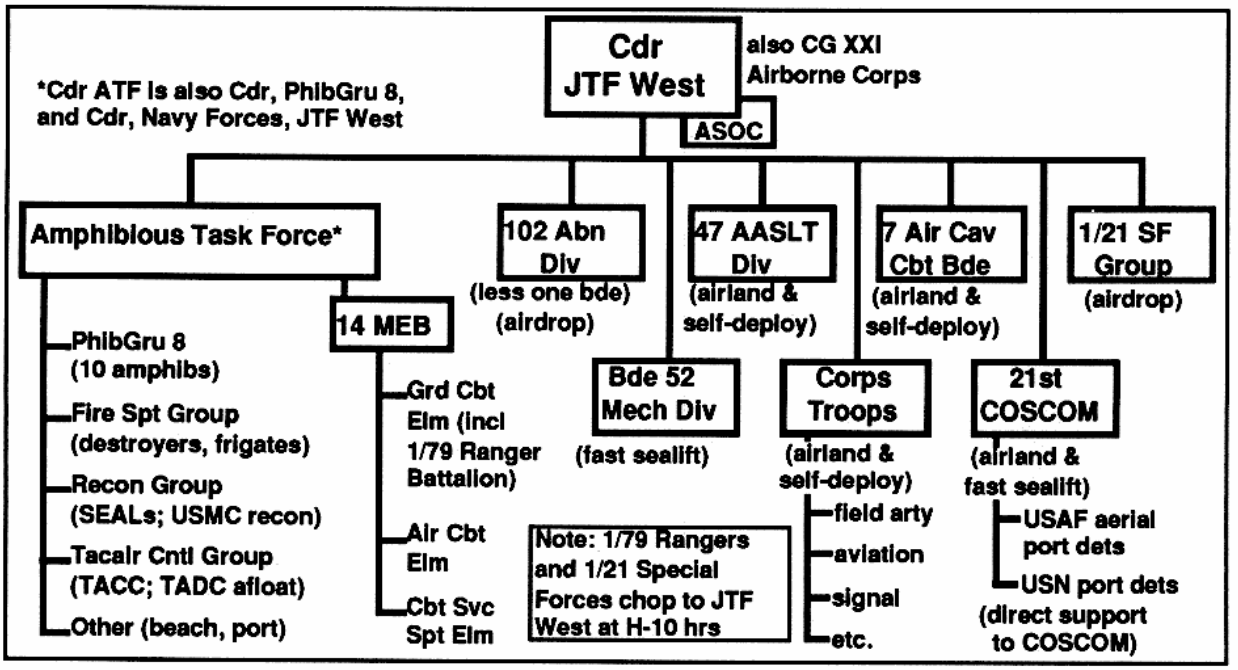

Figure 13. Organization of JTF West

[15]On May 16, 1991, I visited USS *Wasp* at Norfolk, examined its command center spaces and their communications suites, and concluded that Cdr JTF West and his signal officer and the *Wasp* skipper and his communicators could readily find a way in which the ship could be made suitable as a command location for Cdr JTF West in this situation.

"The Cdr JTF West wants to achieve overwhelming mass in his objective area in the first hours and to build strength very quickly. Use of airborne/airlanded/ amphibious operations alone won't do it fast enough in mass. JTF West needs two additional features: (1) self-deployment of all Army helicopters, and (2) fast sealift of an armor brigade from an East Coast port. **Figure 14** *is a schematic.*

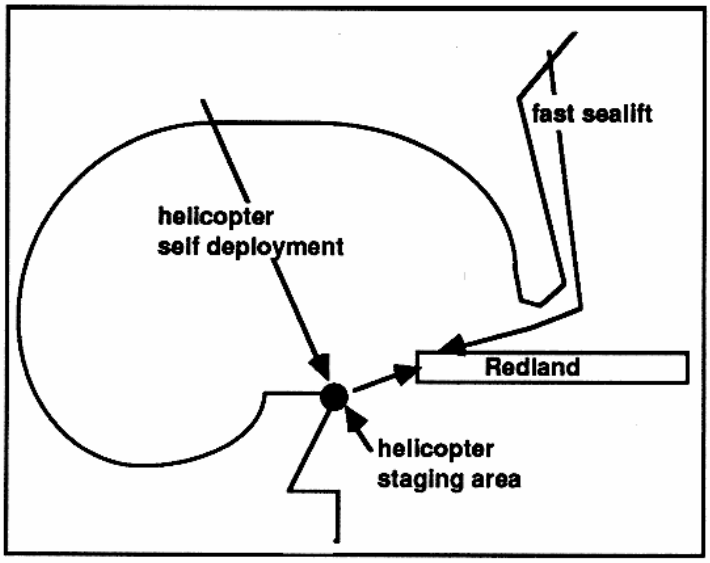

Figure 14. Deployment Schematic

"Cdr JTF West wants us to get the Mexican government to approve our setting up an airfield and port on the Yucatan peninsula as a helicopter staging area. We would stock the staging area using air and sealift and self-deploy all possible Army helicopters, using extra fuel tanks, from Stateside, refueling them and arming them so they can enter combat directly from the staging area.

"He also wants to move a three battalion, tank-heavy, brigade of the 52d Infantry Division (Mech) from its East Coast station by fast sealift, visualizing that it can have a battalion unloading at the port in the objective area by D+1 and the full brigade by D+2.

"With these measures, Cdr JTF West believes that he can close his forces into the objective area fast enough to achieve the essential mass."

CinCLant: "OK. Get busy on meeting his needs."

Issue: Control and Coordination of Tactical Air

The J-3 is soon back with another problem:

> *"Sir, Cdr JTF Redland has three subordinate organizations who 'own' tactical air: Eighth Fleet, V MEF, and Tenth Air Force.*[16] *He has designated Cdr TF Alfa (also Cdr Tenth Air Force) as his JFACC*[17] *and has issued his air tasking guidance,naming these tactical air objectives: (1) insure loss-free airborne operations, (2) rapidly (within hours) achieve air supremacy,*[18]*meaning complete air freedom of action, and (3) support JTF West, JTF Sierra, and (when committed) JTF East. All USAF and all USMC tactical air (except Harriers operating off amphibious ships) will be on bases in the Southeast United States.*
>
> *"Cdr JTF Redland has also made Cdr Tenth Air Force responsible for common air tasking (CAT). Each day the Cdr Eighth Fleet and the CG V MEF will make air assets available for CAT, identifying those assets remaining after each determines what he needs for his own mission. The JFACC then issues the CAT air tasking order (ATO) and coordinates its execution. The CAT ATO takes care of all air support needs of JTF West and JTF Sierra, plus that which JTF East cannot meet from its own means. Cdrs Eighth Fleet and V MEF each execute their own ATOs.*[19]
>
> *"This situation raises many questions. The CG V MEF owns tactical air of his own (the 5th Marine Aircraft Wing); as Cdr JTF East; he owns the same tactical air. The Cdr JTF West (CG XXI Abn Corps) owns no tactical air; he will use the Army/Air Force system. If JTF East is uncommitted, it will have plenty of Marine tactical air. One question is: does the Cdr JTF East (CG V MEF) allocate tactical air daily to 14 MEB, which is part of JTF West? What is the role of Cdr JTF West in this? Can he reallocate this Marine air to another of his units if he sees fit in the interest of mission accomplishment?*
>
> *"JFACC (Cdr Tenth Air Force) using his tactical air control system augmented by that of the fleet and the MEF controls all air operations over the land and at sea a few miles out from the shoreline. He is also the*

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[16]Cdr JTF Redland also has opcon of the Joint Special Operations Task Force (JSOTF) air component, which includes specialized aviation such as AC-130 gunships. Generally, Cdr JSOTF, not the JFACC, directs these assets.

[17]A US 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

[18]Not "air superiority," which is one stage less than air supremacy and denies the enemy prohibitive interference with operations at a given time and place. Joint Pub 1-02, p. 21.

[19]This differs from the practice in the Gulf War, in which there was a single ATO (see footnote next page).

theater air defense and airspace control authority. The Cdr Tenth Air Force directs all air reconnaissance, airlift, electronic warfare, and search and rescue operations in his defined domain. He also directs BAI/AI (battlefield air interdiction/air interdiction) operations in support of JTF commanders. Joint Pub 1-02 defines air interdiction but not battlefield air interdiction; the Army and Air Force have used the term BAI for that air which goes in deeper than close air support yet is of special interest to the ground commander. The Tenth Air Force air liaison officer (ALO) and ASOC at JTF West headquarters and the JTF's battlefield coordination element (BCE) at the Tenth Air Force TACC are mechanisms for effective harmonization of air support with JTF operations.[20]

"But the V MEF (JTF East) if committed will not be using the Army/Air Force system. It will use the USMC system, which has no such term as BAI and has a different organization and procedures for tactical air planning and execution. V MEF does not need an ALO or ASOC or BCE. But they are not sure, if committed, who takes care of deep air operations in their support and who coordinates it.

"And, finally, the Cdr JTF West believes that he needs a JFACC. He says that Cdr JTF East (CG I MEF) has a JFACC in his CG 5th Marine Aircraft Wing, whether he calls him that or not. He wants the same kind of handle on JTF West's air support.

"All of this is an adaptation by LantCom of the tactical air SOPs which were in effect for CentCom exercises before they deployed for and conducted Desert Storm. I believe that CentCom's experience in the Gulf may have led to some rethinking about these procedures."

CinCLant: "Set up a briefing for me by Cdr JTF Redland and his JFACC so that I can sort this out and give some guidance on how we will work. I'd sure like to know how CentCom resolved issues like this in Desert Storm."[21]

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[20]The Air Force is moving away from BAI as a subset of AI; the term BAI was not used in Desert Storm.

[21]CentCom had five months to get ready for the air war, and five more weeks before the ground, or air/land "100-hour war" began. CinCCent immediately designated Cdr CentAF as the JFACC, making him responsible for the coordination and direction of all US air, whatever the Service. By agreement, Allied air then came under JFACC's jurisdiction. JFACC's first priority was intelligence. For example, what were the critical Iraqi command and control nodes and links? What were the locations of nuclear facilities? Time permitted, and Stateside resources cooperated in, a comprehensive and detailed intelligence effort. This provided a basis for targeting, which then provided a basis for developing, with computer assistance, the daily air tasking order (ATO), describing each mission, its target, and its time. The air war was laid out in three phases, the last of which was directed at destroying Iraqi armor in forward areas, after which the ground war began. For the ground war, the JFACC instituted a concept known as "push CAS" (close air support). The Kuwait theater of operations (KTO) had already been laid out in squares 30 miles on a side. The daily ATO sent, by day, one four-ship air-to-ground mission into each square each 12 minutes, and, by night, one two-ship mission to each square each 20 minutes. Before going to its assigned square, where it

Other Issues

CinCLant continued: "You're an expert at bringing me problems. Come in soon with two more of our most pressing problems and a brief explanation." The J-3 returned:

> *"Sir, we have major problems in intelligence and logistics.* **Figure 15** *sketches that part of the intelligence system relevant to JTF West.*

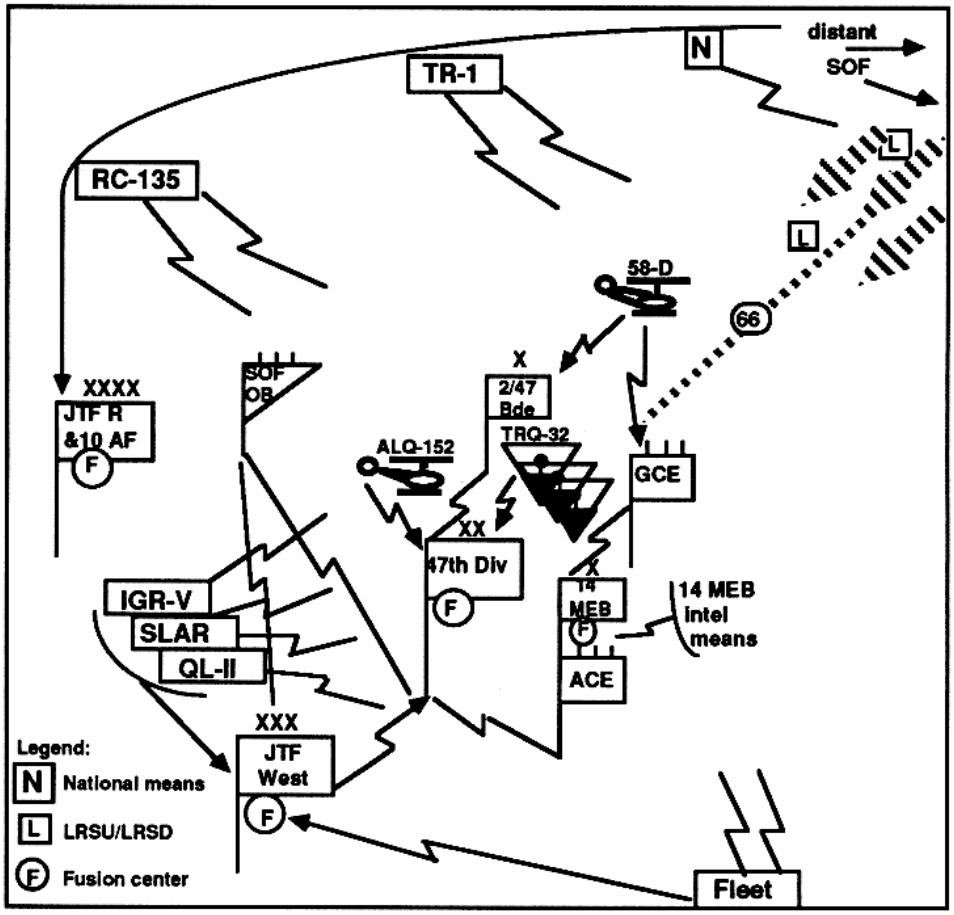

Figure 15. Intelligence for JTF West[22]

would look for Iraqi targets, each mission checked in with the ALOs (air liaison officers) of the front-line divisions; if the division commander needed that mission as CAS, his ALO could divert it, and the mission would be put in by an airborne or ground FAC (forward air controller) working with that division. Some divisions used as much as 60% of the air that checked in; others used a good deal less. A JSTARS (joint surveillance target attack radar system) aircraft was usually over the battle area; its imagery devices could pick up targets and its operations people could vector air-to-ground missions to those targets. The AWACS (airborne warning and control system) aircraft served the same function for air-to-air operations. in the ground war, I MEF generally used half its air in direct support of its ground formations; releasing the rest to JFACC. Carrier-based air was likewise usually half for fleet protection and half to JFACC. Allied air was handled, mission by mission, by the single ATO. Although the system worked, there were problems, one of which was the sheer bulk of the ATO; one day it was 830 pages long. Fleet communications were swamped, nor did the fleet have computers compatible with the air forces'. It became necessary to fly the ATO to pickup points on the Gulf and Red Sea; helicopters or carrier aircraft then took it to sea.

[22]This is a notional, unclassified, portrayal to illustrate, with a sample of collection means, the system; it is a

"All commanders in JTF Redland recognize that they must plan and control superior intelligence operations. The Cdr JTF Redland has said that he wants to have complete integration of intelligence operations; to make use of all available sources; and to provide relevant intelligence products to those who need them with minimum delay.

"The Cdr Tenth Air Force (also JFACC) and the Cdr JTF West are saying that they must both have accurate real time intelligence on the enemy moving to attack Line Steel, so that they can hit him with air.

"The CG 47th AASLT Division (reinforced by 14th MEB) expects to be on Line Steel (see **Figure 16**) *before the enemy can react with strong forces, but*

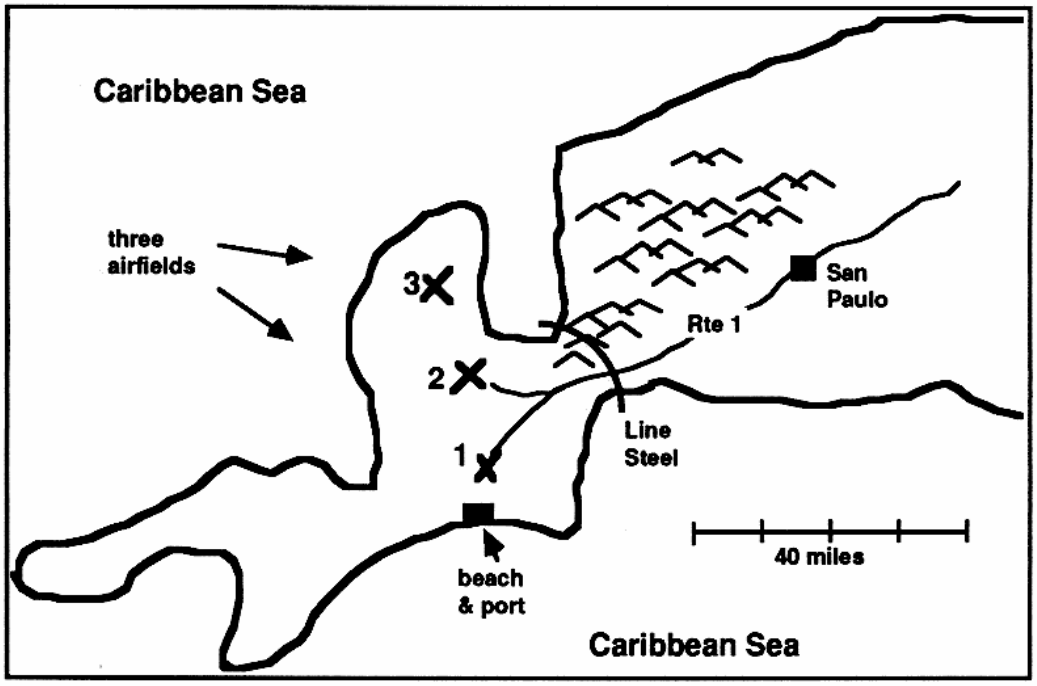

Figure 16. Sketch Map of Area of Operations

that the enemy will attempt to attack Line Steel, moving mechanized forces and infantry from San Paulo and vicinity as soon as he can. He knows the enemy can come through the hills, but expects the enemy

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good deal more complex than this implies. SOF (special operations force), LRSD (long range surveillance detachments) and LRSU (long range surveillance units) provide deep reconnaissance. The OH-58D helicopter has special surveillance equipment. The TRQ-32 is a ground station for communications intercept and direction finding. IGR-V (Improved Guardrail), SLAR (side looking airborne radar), the QL-II (Quicklook II), the RC-135, and the TR-1 are airborne platforms of varying capabilities. "National means" are satellite-based intelligence collectors. SOF reports go first to the SOF OB (special operations force operations base); LRSU/LRSD teams report respectively to JTF (corps)/division. The arrows show where the other systems ordinarily downlink (JTF Redland/10th Air Force, for example). "Fusion center" is a term often used for locations where correlation and analysis of technical intelligence take place.

main effort will be to move down Route 1 with mechanized forces southwest from San Paulo. He intends to delay the enemy with special operations forces and with a covering force out ahead of the forward edge of the battle area (FEBA) on Line Steel. When the enemy reaches the division (reinforced) forward positions, he expects to fight an offensive defense. His concept of operations calls for real-time intelligence tracking of the enemy and for coordinated, synchronized employment at just the right time of two battalions of attack helicopters, close air support, artillery, and maneuver.[23]

"The CG 47th AASLT Div (Reinf) assumes that the intelligence apparatus of the theater and JTF Redland will provide adequate, timely, and focused intelligence support. He hopes he's right.

"But let's assume that the Redland 30th and 31st Motorized Rifle Divisions (MRD) are moving from vicinity San Paulo and are coming down Route 1 and parallel roads; we want to track them in real time and engage them with precision and full effect.

"Considering the needs of front line brigade commanders (14th MEB and 2d Brigade, 47th AASLT Div) for real-time information so that they can employ maneuver, artillery, and tacair, and considering the real-time intelligence needs of Cdr JTF Redland, Cdr Tenth Air Force, Cdr JTF West, and CG 47th AASLT Div (Reinf), my impression is that we simply don't have in place the integrated and responsive systems for rapid correlation and sharing of intelligence. Our problem is that we haven't set up something like this before, and haven't worked it out in practice."

CinCLant: "Can we find out how General Schwarzkopf solved this problem?" J-3: "I can tell you this much: He worked on it for months, and had lots of help."

CinCLant: "OK. Now what about logistics?" The J-3:

"Sir, ***Figure 17*** *(p. 84) is a picture of the lines of logistics and administration. Operational direction goes through JTF Redland; administration and logistics come through Service channels. That's the doctrine.*

"But take JTF West; its commander must have some control over air and sea logistics flow. He cannot put up with a situation in which equipment

[23]The complexities of battle coordination for the defense of Line Steel reinforce the judgment of Cdr JTF West that unity of command under the CG 47th AASLT Div is essential (pp. 73-76).

and supplies come into his airfields and the port without his influence on timing and content. That's why the Army/Navy port units and the USAF aerial port detachments are in direct support to the 21st Corps Support Command (COSCOM). Cdr JTF West will no doubt rely heavily on his COSCOM commander, who on a smaller scale would be analogous to Lieutenant General Pagonis, General Schwarzkopf's world class command-type logistician.

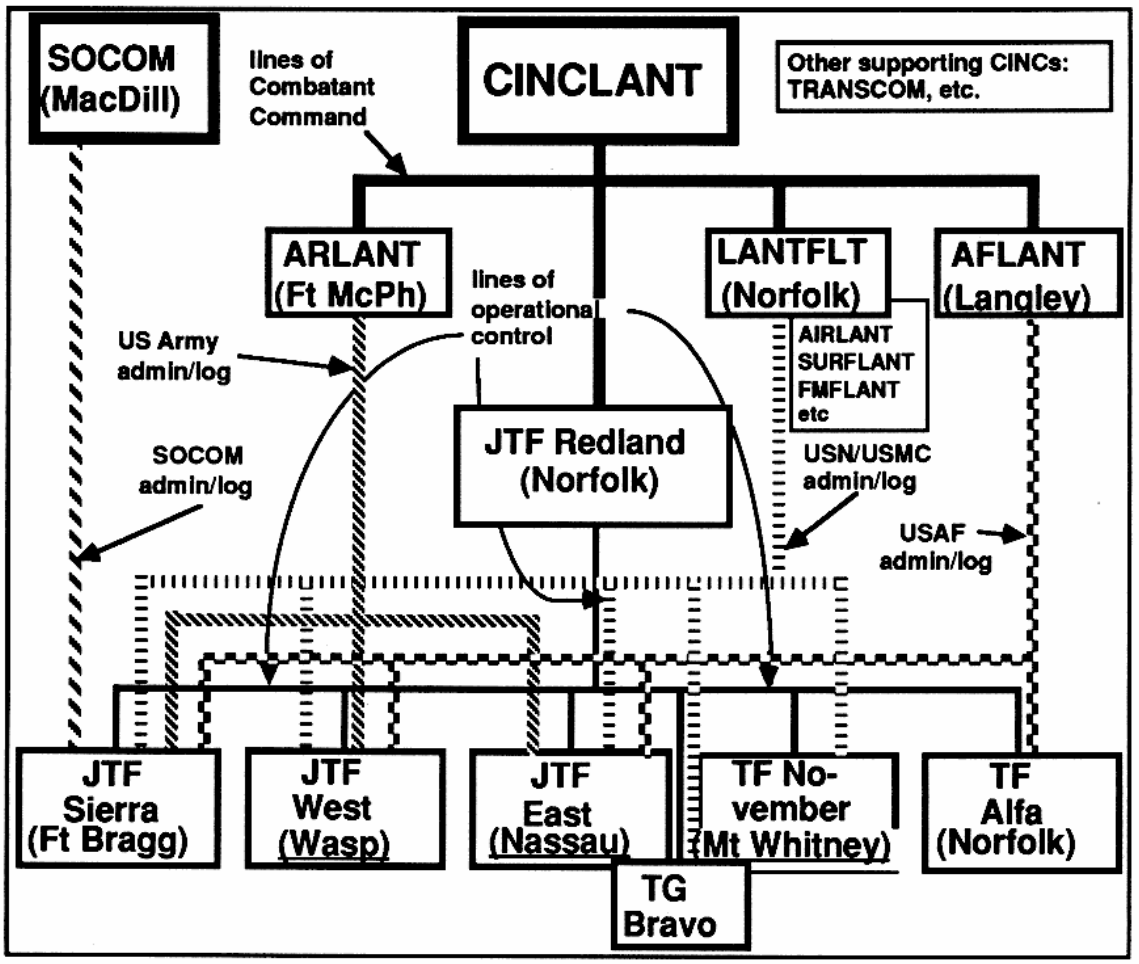

Figure 17. Administrative and Logistic Support of JTF Redland

"General Pagonis's logistic command was part of ArCent (the Army component of CentCom); CincCent had charged Commander ArCent (Lieutenant General Yeosock) with responsibility for creating and operating a theater communications zone. But, with his direct channel to and from General Schwarzkopf, Pagonis (under Yeosock) took on more than Army logistics; he in effect directed all logistics operations, of all Services, resolving disputes and coordinating with the host nation and coalition partners. Not to overstate the case, but Pagonis, under ArCent

command to be sure, was in effect responsible to Schwarzkopf for getting the logistics job done for CincCent.[24]

"Cdr JTF West has a similar, albeit less comprehensive problem. But to whom does the Cdr 21st COSCOM talk to at JTF Redland or at LantCom, or does he talk to anyone there at all? Might he go direct to the Services' Stateside logistic authorities, like the Army's Forces Command or Materiel Command? Does JTF Redland need a Pagonis-style command-type logistician in addition to his J-4? How about CinCLant?"

Denouement, Operation Precision Strike, and Lessons Learned

If the reader can take it, we'll use a final stage device to conclude Precision Strike. It is a letter from CincLant to the Chairman, JCS, dated October 11, 199X.

Dear _____:

I was mighty glad when the Redland palace coup took Gomez out of play three days ago and the Soviets immediately sent their locals into the missile sites to disarm the warheads and secure the missiles. I really did not want to execute Operation Precision Strike; too many problems to solve in too short a time. We just don't have our act together; command and control would have been, I fear, chaotic.

Norm Schwarzkopf had several months; we had only a few days.

Did you ever read "The Defence of Duffer's Drift" written by a British Army captain shortly after service in the Boer War. A British platoon leader in South Africa has a series of bad dreams about his tactical solution; after each dream he changes his plan, and finally after the Sixth Dream he is in good shape. Getting ready for Precision Strike and being reprieved from executing it was like a very large bad dream.*

We have some work to do. May I share my thoughts with you? They are in "bullet" form for now.

- *One concern was that JTF West might not come in with sufficient anti-armor to cope with the likely enemy. Our intelligence estimate was that the enemy in the objective area was at most an infantry division and that the nearest mechanized forces were around San Paulo. The challenge, for success, was twofold: (1) by opsec (operations security) and*

[24]This brief treatment is greatly simplified. In "Army Operations in the Gulf Theater" (*Military Review*, Sept. 1991) General Yeosock describes how his command served three functions: as the US Army component to CentCom; as the theater army command supporting CentCom; and as a numbered field army conducting land combat operations.

deception, keep the enemy from divining our plan and reinforcing before the assault; (2) get sufficient mass, including all possible anti-armor, into the objective area quickly.

Would deception have succeeded? In view of the scope of the required preparations Stateside, the need to move the amphibious force into the Gulf of Mexico, the intelligence capabilities the enemy would have, and the penetrating curiosity and lack of self-restraint of the US press, it may have been unlikely. Losing surprise, we might have had to fight for the airfields and port, in which anti-armor mass would have been even more essential.

- *To be ready for any future like requirement for anti-armor mass, I recommend:*
- *Emulate Desert Storm's use of anti-armor air munitions.*
- *Replace the Marines' M-60s with M-1 Abrams, and exploit their TOW/LAVs.*
- *Expedite replacement of Sheridans with the airdroppable/airlandable Armored Gun System, and in more ample numbers.*
- *Exploit the anti-armor Apache and the future LHX/Comanche.*
- *Maintain fast sealift for an armor brigade at Savannah, ready to load within 24 hours of alert.*

I have also become convinced that, in order to achieve speed of reaction and mass in the objective area in future force projections, the Army must field an in-flight refueling system for its larger helicopters (say, the UH-60 Blackhawk and up) so that they can be self-deployed for distances of 1,000 to 1,500 miles. In this operation we could establish a staging area on the Yucatan peninsula, reachable with auxiliary fuel tanks. Future contingencies may not so permit. SoCom has developed a capability for inflight helicopter refueling from tanker aircraft; the Army need only buy that in suitable numbers for its helicopters.

As long as I am giving free advice to the Army, I think they would also be well advised to build, at least in battalion or brigade sizes, an airborne armor capability such as the Soviets have long had in their divisions. My impression is that the Army's thinking on the composition and use of airborne forces hasn't moved very far since the 1960s and is now well short of its full potential.

- *I have had problems convincing some people that we can, and indeed must, mix Army/Marine/special operations forces in a single JTF. So much of joint doctrine reflects the "component" approach[25] that it discourages integration of multi-Service forces at lower echelons and inhibits such measures as the use of USS Wasp by an Army JTF commander. There are many advantages to combining Service capabilities at low echelons. But there are strong Service preferences for single-Service operations; many in the Services just do not like working closely with another Service. This is true of Marines/Army at levels of brigade/battalion/company, but it also applies to all-Service air operations. There is also a gross lack of knowledge among Service officers of how other Services operate, which leads to the judgment that working with closely mixed formations is a non-starter. The Services over the years have insisted that joint doctrine reflect the component approach, but strict adherence to that approach by a joint commander (who has authority to organize his command as he sees fit for mission accomplishment) builds walls that inhibit an open approach to organization for combat. As we downsize our forces, they will be forced to operate closely at lower echelons. We can't put up with this old thinking.*

- *Some Army people believe that, inasmuch as the JFACC was "air component commander," JTF Redland should have had a "land component" commander. I chose not to establish such, believing that it would interpose an unnecessary and cumbersome intermediate command and preferring to command my maneuver JTFs directly, each with its own zone and mission. These JTFs differ from either the air or naval commanders', whose responsibilities ranged over the entire JTF Redland area of operations. (Essentially, I did what General Schwarzkopf*

[25]The notion of a "Service component " first appeared in North Africa in early 1943, when the combined Royal Air Force and US Army Air Forces' tactical air in theater was described as a single air "component" directly under the theater commander, General Eisenhower. Over the years, the Service component idea and the word itself have become US doctrine written in stone. Thus, today, notwithstanding that the law does not mention the word "component," a US unified command is built from Service "components" and a "component" (actually a "sub-unified command") from the US Special Operations Command. Thus the Army component of even a subordinate JTF is often known as "ARFOR." MARFOR stands for the USMC "component;" there are also AFFOR , NAVFOR, and sometimes SOFOR (special operations component). The Services like these as titles for operational formations; it preserves Service integrity and separateness. And owing to the way the Service providers of forces build and indoctrinate them, each component, including that of special operations, comes to the unified command or JTF with a culture and ethos of its own forming an invisible but very real "wall" which resists placing its units under another "component." Although unfortunate, this is not reprehensible. It is in the very nature of the military world; the intangibles of esprit and unit bonding within these walls add tangible strength in battle. But it gets in the way of combining Service forces at the lower tactical echelons; and accepting such walls considerably inhibits flexibility in operations. For further discussion, see Chapter VIII, Organizing the Force for Battle, and Options, of John H. Cushman *Command and Control of Theater Forces: Issues in Mideast Coalition Command*, Program on Information Resources Policy, Harvard University, Cambridge, MA, February 1991, pp. 57-66.

did in Desert Storm ,with his three main subordinate maneuver elements—I MEF,Third US Army, and the Arab contingents. Like him, I double-hatted myself as land component commander.)

- *We have a major doctrinal void:* ***forcible entry operations.*** *This is a useful new term. It recognizes a* ***kind*** *of operation, namely a lodgment in the face of armed opposition, but not a single* ***method****. The* ***method*** *can be amphibious (a forcible entry launched from sea-based platforms), or airborne (an entry striking from the air), or a combination of the two—the last being the more likely.*

  As Desert Shield/Desert Storm illustrated, it takes a good deal of time to assemble the amphibious shipping for a Marine Expeditionary Brigade, the largest short-notice amphibious-only operation in the future will probably be a Marine Expeditionary Unit (as for Liberia in July-September 1990), with a reinforced battalion landing team as its Ground Combat Element. Remember, a full-up MEB takes 20-25 amphibious ships, which is about half the readily available amphibious fleet, and the ships of one such amphibious force are normally stationed in the Atlantic/Mediterranean and those of the other are in the Pacific.

  To develop the doctrine for a combination of amphibious and airborne/air-landed operations, it is not sufficient simply to graft onto existing amphibious doctrine some aspects of doctrine for airborne/airlanded operations. Joint amphibious doctrine is ample and detailed; it was developed without regard to the use of a sizeable airborne assault component. Joint airborne/airlanded doctrine is, in any event, quite thin. Forcible entry doctrine which combines the two under one commander (with outside support from theater air, the fleet, and airlift/ sealift) is virtually nonexistent. Essentially all we have now is a definition. Yet the amphibious/airborne combination is the most likely future type of forcible entry. We need to address this doctrinal void.

  We should not underestimate the anguish that fleshing out a forcible entry doctrine will cause among Service doctrinaires. I recommend setting up an open-minded, all-Service team under your J-7, reviewing how we solved the problem in JTF Redland, working with other CinCs, testing ideas in exercises and war games, and starting, if not with a blank slate, without preconceptions.

- *We need to work on command and control (C2) systems for mixed forces such as JTFs West and East and JTF Redland. Tactical air command and control, intelligence systems, and logistics C2 especially need work. I will be coming in with some recommendations; it is clear tha6 the Joint*

Staff needs to be less doctrinal " in its approach, and more practical.[25]

- *We must achieve teamwork through practice ahead of time so that forces like these can hit the ground running. The Gulf War's success stemmed directly from intensive training and preparation in the months before war began. We did not have that and may not have it in future contingencies, so we need relatively stable mixed organizations and continuous training of these joint organizations.Distributed simulations which permit realistic exercising of commanders and staffs from home stations or other separated locations will be one answer.*

- *I am satisfied that joint doctrine must provide for a single command authority to whom the commander can turn for logistics at the JTF level. The Services and TransCom can get troops and supplies rapidly into the area of operations, but we need someone present on the scene from the outset who can take charge, sort things out, manage rear area real estate, cross-level Service supplies, direct port and aerial port operations, and so on. This is too big a task for a J-4; the J-4 is a logistics staff officer/planner. It requires a single logistics operator, probably a Service logistics commander double-hatted as a joint commander, as with General Pagonis under Norm Schwarzkopf.*

- *Finally, Service forces will require a joint system for "combat developments"—to use the Army's term—so that forces generated independently by the Services can work closely together under joint command when they reach the field. Mechanisms for this are in place; we simply need to strengthen them and increase their scope.*

All of this is in the context of JTF Redland; this was an all-US force and operation. Clearly, future operations will usually be in a coalition context, involving one or more other nations and possibly a United Nations coloration. As Desert Shield/ Desert Storm illustrated, having his US-only act together makes it

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[26]The DCA's Joint Tactical Command, Control, and Communications Agency (JTC3A) is responsible for fostering joint connectivity. It has a comprehensive program for doing so, including the automation of its *Joint Connectivity Handbook*, a reference document on command centers, equipments, and communications systems and interfaces for field users. JTC3A people have in the past year worked with instructors at the Armed Forces Staff College—using Operation Precision Strike, its JTF West, and other features of JTF Redland as vehicles—toward improving student understanding of what is required to provide C3I systems for all-Service operations. The JTC3A would have little difficulty developing suitable C3I systems to implement JTF Redland's ways of operating. But inasmuch as JTF Redland's ways are not "joint doctrine" but rather are a field commander's solution (permitted of course by doctrine), for the JTC3A the component approach continues to prevail. A conceptual framework along the lines of JTF Redland's or other mixed all-Service concept must be provided to the JTC3A before substantive progress can be made. This is the proper task of the Joint Staff, under the Chairman, JCS.

far easier for a US commander to provide coordinating leadership to a coalition force.

Chapter V. Issues for the Future

In years to come the early 1990s will surely be seen as a turning point for the American military establishment—as a time when, either by default or by design or by both, fundamental policies and force structures were put into place that shaped the force projection and other military forces of the United States well into the 21st Century.

Our period is witnessing profound change—the dissolution of the Warsaw Pact and the receding of the USSR as a menace to US interests—while in the Mideast and elsewhere around the world instability and unpredictability nonetheless remain. With this there are Executive and Congressional judgments that defense resources should be severely cut back and that the downsizing of the US military should begin. And there is a shift of interest to other pressing concerns such as the environment, poverty in less developed countries, world trade, US competitiveness, racial harmony, education.

All this is taking place as the lessons, first of Just Cause and then of Desert Shield/ Desert Storm and its aftermath, are up for scrutiny.

Lessons of Just Cause, December 1989

Operation Just Cause demonstrated that it was possible for the US military to run a highly competent and professional operation that quickly got the job done and got out. After disappointments going as far back as the abortive 1979 Iran rescue mission, not to mention the legacy of Vietnam, this was a major confidence-building accomplishment.

The real lessons of Just Cause lie in what led to so effective a performance. One contributing factor was a chain of command and direction in which each participant—from the President, to the Secretary of Defense, through the JCS Chairman and his colleagues and the Joint Staff, to the theater commander and his supporting CinCs, to the warfighting JTF commander, to the troops themselves— performed in the proper role and there was no doubt as to who was responsible for what.[1]

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[1]Author Bob Woodward, in *The Commanders* (Simon and Schuster, New York, 1991 pp. 117, 231) suggests that one key factor in this was the willingness of the President and his advisors to proceed with the operation with the "Weinberger six requirements" in mind, satisfied that as the operation unfolded each of those requirements would be met. Enunciated in a November 28, 1984, speech at the National Press Club, the Weinberger tests were: (1) "The United States should not commit forces to combat overseas unless the particular engagement or occasion is deemed vital to our national interest"; (2) the commitment should only be made "with the clear intention of winning"; (3) it should be carried out with "clearly defined political and military objectives"; (4) it "must be continually reassessed and adjusted if necessary"; (5) it should "have the support of the American people and their elected representatives in Congress"; and (6) it should "be a last

A second contributing factor was a sound military plan, well executed, in which surprise, mass, unity of command, simplicity, flexibility, the objective, and other principles of war—plus proven concepts like precision, timing, mutual support, and mission-type orders—were applied.

A third factor was the remarkable proficiency of all Services' troops, which in turn derived from superior training at lower levels and from a series of joint rehearsals—made possible because time was available.

Surprise, achieved through both tight operations security and deception, played a large part in the operation's success.

Favorable conditions not commonly encountered also contributed to the success of Just Cause, namely the proximity in the Canal Zone of most of the US forces employed and their senior commanders, the availability of an existing US infrastructure nearby, and Noriega's lack of any air or significant armor.

Finally, a defining feature of Just Cause was the successful use of airborne force projection in the largest such operation since World War II.

Lessons of Desert Shield/Desert Storm

Desert Shield/Desert Storm saw a performance of the chain of command and direction equally masterful as in Just Cause, in an even more demanding challenge—involving a far greater commitment of all-Service forces than in Panama and the building and wielding of one of the largest coalitions by nation count in the history of warfare.

Sound military planning and proficiency in execution were the equal of that of Just Cause, again on a grander scale.

The immediate achievement of air superiority, shortly to become air supremacy, including the destruction in the first hours of key sections of Iraqi command and control, followed by the use of air to dismantle Iraq's C2 and its air, land, and sea forces, was a vital component of success.

The performance of high technology weaponry—from the Stealth fighter and its precision munitions, to the Patriot, to the cruise missile, to the JSTARS (joint surveillance and targeting system) aircraft, to the M-1A1 tank—was a major contribution, highly gratifying to those who had participated in the development of such materiel and had defended its acquisition.[2]

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resort." (According to one reviewer, "the Weinberger Doctrine is being strongly downplayed within the Department of Defense, as being too restrictive.")

[2]Third hand, I have heard a war story on Copperhead, which is a round of tank-killing artillery ammunition that was used for the first time in combat in Desert Storm; the unit so armed and equipped was the Army's

And by all accounts the performance of the troops—soldiers, sailors, airmen, Marines, and Coast Guardsmen alike—could hardly have been better.[3]

One vivid emerging lesson of Desert Shield/Desert Storm is that major improvement is required in information sharing among the various elements of a multiservice force. In the months before fighting began, communicators and command and control people in the desert, supported by the Services, the Joint Staff J-6 Directorate, the Defense Communications Agency, and the C3I offices reporting to the Secretary of Defense, carried out a massive in-theater program to achieve interoperability and open information flow. Many lessons seem to have been learned; applying these in future communications and C2 programs will be a sizeable challenge with a high payoff.[4]

1st Cavalry Division. The Copperhead has a seeker in its nose that locks onto a target that is being illuminated by a forward observer with a ground or airborne laser designator; the seeker then guides the round to that exact spot. Codes in the laser seeker and laser designator are matched target for target in the computerized field artillery fire direction equipment known as TACFIRE. It seems that the 17th Lancers, a tank battalion of the British 1st Armoured Division, came up on an Iraqi formation on the second or third day of the ground war and was preparing to attack. Suddenly, as the Lancers watched, the Iraqi tanks and other mechanized vehicles began to explode. No aircraft were in sight, nor did the attack look like field artillery; no rounds were landing in the sand. The 17th Lancers later learned that they had witnessed a Copperhead strike. 1st Cavalry Division fire direction people told me that they had not heard that 17th Lancers' story, but that the reported action was consistent with Copperhead attacks which had been guided by OH-58D helicopter-borne forward observers throughout the 100-hour war. Copperhead is another of those "troubled" R&D programs that proved itself in Desert Storm.

[3]In a briefing for presentation at the US Army Armor Conference at Fort Knox, KY, on May 9, 1991, Lieutenant General Frederick M. Franks, Jr., Commanding General, VII Corps, prepared three charts which are probably typical of those prepared by other senior commanders of all Services of Desert Shield/Desert Storm. They were:

Keys to Our Success
- Extraordinarily successful theater air operations and deception
- Training, rehearsal, and thorough preparation
- Attacked enemy relentlessly throughout his depth by maneuver and fires
- Read the battlefield accurately and continuously
- Agility to adjust plan priorities, and tactical maneuver to exploit opportunities

Keys to Our Success (continued)
- Massed overwhelming combat power—direct and indirect
- Synchronized logistics with maneuver to sustain tempo of operations
- Brought superbly trained, equipped, and motivated soldiers to the battlefield
- Courage of soldiers in taking fight, day and night and in bad weather, to the enemy
- Quality of soldiers and NCO leadership

Soldiers
- Confident in themselves, in their fellow soldiers, in their leaders, in their equipment
- Skilled—know their craft
- Tough—took the fight to the enemy: day, night, bad weather
- Disciplined
- Proud—to be American Soldiers

From the presentation of MG Ronald H. Griffith, CG 1st Armored Division, at the same conference: "We fought a brigade of the Medina division on the afternoon of the 26th of February. There were 140 armor systems employed by the Iraqis in that fight. They were destroyed in a matter of about 45 minutes with 200 tank rounds."

[4]One example: When the 1st Brigade, 2d Armored Division (Tiger Brigade), reported to I MEF for opcon before the ground war began, thence for opcon to the 2d Marine Division, the Marines observed that this brigade came with a set of Mobile Subscriber Equipment (MSE). Only the Army has bought this kind of equipment for its forces. MSE provides stationary or vehicle-mounted "subscriber terminals" (telephone,

Issue: Achieving Quality Performance in Future Contingencies

Quality performance is the product of a seamless web of preparation, from the bottom to the top of any organization. That preparation begins with the individual's recruitment and stems thereafter from his or her indoctrination, motivation, training and education, and how he or she (and family) is taken care of as a person. Individual development is in the hands of the Services and their institutions, supported and coordinated by policies of the Department of Defense and deriving from compensation and other legislation enacted by the Congress.

Among these people, on whom everything in large organizations depends, are the specialists, both enlisted and officer, and the small unit leaders—noncommissioned officers and junior officers—of particular importance.

Individual development continues with the development of collective team skills in the Services' small units; and this in turn takes place within the framework of larger unit training—battalion/squadron/combatant ship and up. If, as seems obvious, future force projection forces will generally be mixed, then it is crucially important that training and education for this larger framework not be an afterthought or overlay on top of training as usual. All Service training and development must be in a continuing context of the operations of multiservice or all-Service mixed formations. The question is how to do that.

One solution would be the full time assignment of all Stateside forces to the multiservice theater commands (EuCom, LantCom, PaCom, CentCom, and SouthCom), to return ForsCom to an Army-only, not a specified, command just as the Tactical Air Command is an Air Force-only Stateside command, and to make these theater CinCs fully responsible for the joint readiness of the all-Service forces assigned.[5] In this solution, a contingent of Navy and Marine Corps

facsimile, or alphanumeric screen message devices) to users throughout the Army's corps and down to low echelons (e.g., to the battalion main CP in close combat units). It is a tactical "cellular" radio/telephone system in which an ever-changing network of Node Center ("NCs")—linked by line-of-sight shots, each NC having radio and telephone access to its served stationary or moving subscribers, including switchboard-equipped large and small "extension nodes"—is deployed throughout the battle area. The MSE user's end-item is the Subscriber Terminal. This can provide telephone equipment (with touch-tone dial like your home telephone) known as a DSVT (Digital Subscriber Voice Terminal); secure or non-secure. It can also provide facsimile and alphanumeric data terminals. Each subscriber has a "telephone number." Every call is automatically routed by the network from the calling to the called party as the call is entered at the caller's touch-tone instrument. In any event, the Marines seem to want MSE. One question is: Who will pay for the software that permits the USMC unit level switch to link with the MSE? This, a long-standing problem, is just one of countless C3 issues to emerge from, or be highlighted by the experience of, Desert Shield/ Desert Storm.

[5]One can argue that such full time assignment of forces is what the Goldwater-Nichols lawmakers had in mind when they said [in Section 162 (a) Assignment of Forces] "...the Secretaries of the military departments shall assign all forces under their jurisdiction to unified and specified commands to perform missions assigned to those commands..." and that the naming of the Army's Forces Command as a "specified command," double-hatting its commander and staff, was a circumvention of the Goldwater-Nichols intent, as

forces would be assigned to both CentCom and SouthCom, which the two sea Services tend to see as "Army" or "Army-Air Force" commands.[6]

Such a solution would recognize that a high order of proficiency in multiservice operations requires continuous direction and supervision of a stable set of forces by the unified CinC—that true multiservice readiness simply cannot be satisfied under a system in which the CinC only occasionally exercises one or another set of forces, his putative operational subordinates for contingencies look day-to-day to a Service component chain of command for supervision of training and readiness, and these Service components serve more than one CinC.

Clearly there are not enough forces to assign all theater CinCs all the forces they would need under any circumstances. The day-to-day standing distribution could be the foundation for imminent combat theater by theater, to be modified as a crisis or contingency dictated. The CinCs would be responsible for training assigned forces to meet their contingency assignments in other unified commands. This is a familiar concept in single-Service formations; it could be readily adapted for the unified commands.

In this solution theater CinCs would have a relatively stable set of multiservice commanders and forces (recognizing that, especially for Navy and Marine Corps forces, specific combat groupings would change from time to time with deployment schedules). CinCs could then prepare those forces for joint operations, making full use of emerging distributed warfare simulation which permits command-and-tactical-level exercises to be carried out by forces far from the scene of the exercise without involving the troops at lower echelons themselves.[7]

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was "assigning" virtually all Stateside-based USAF tactical air to EuCom, leaving their "management" under the Tactical Air Command, headquarters at Langley AFB, VA. The Congress seems to have intended that these Army and Air Force forces be placed with other Service's forces in unified, not single-Service, commands where responsible unified commanders could be held accountable for the state of their multiservice operational teamwork and joint readiness; this is by no means the case either for FORSCOM or for the Stateside TAC units putatively assigned to EuCom. The practical effect of the present arrangement has been to deny CinCs such as CinCCent and CinCLant day-to-day authority, direction, and control of even a token portion of the Army and Air Force forces on which they must rely for mission accomplishment in war.

[6]The full suite of Navy forces for CentCom and SouthCom need not be regularly deployed in those two commands' respective areas of operations. Carrier battle groups, for example, could remain for the most part in PaCom's or LantCom's areas. They could be identified for movement to CentCom or SouthCom in a crisis and report often from a distance to CentCom and SouthCom for training in a distributed warfare simulation. And the training of Marine forces could be accomplished Stateside during the workup period of a Marine Expeditionary Unit and its amphibious ready group before deployment, including distributed warfare simulation with a parent MEB at home station.

[7]The aim of warfare simulation is to give commanders and staffs an experience of warfare as close to the real thing as possible, without involving the troops. Even rudimentary "board games" do fairly well representing maneuver forces and their fire support. Advancing technology makes possible the ever more realistic representation of communications, intelligence, electronic warfare, air defense, logistics, tactical air and so on, against an enemy with the same array of capabilities. Distributed simulation allows widely separated participants to train together as if they were on the same battlefield; exploiting six years of

A less far-reaching solution might be for each of the five theater CinCs to establish one or more standing JTFs (which could be built around an assigned corps, or division, or MEF) and to give these a fairly stable composition of forces made up from the Services' forces in ForsCom, TAC, and LantCom/PaCom's Navy and USMC components generally as earmarked for contingencies. The CinCs could then exercise these forces often under their standing JTF(s), using distributed simulations.

The objective is to achieve teamwork through force stability, command supervision, and continuous practice. Those were the factors, reinforced by "stop-loss" orders which kept Desert Storm units from losing people during the preparation period, which were the essential ingredients of the troops' superb proficiency in the Gulf War.

Issue: Achieving Speed, Mass, Surprise, and Precision in Future Contingencies

Perhaps the most compelling lesson of Just Cause and Desert Shield/Desert Storm is the importance of going in quickly, with maximum surprise, with precision performance of air and other forces, and with more than enough force to get the job done.

A contingency evolves in phases. The first of these can be seen as the day-to-day force planning and training that takes place ahead of time. Rarely will the training be as precisely applicable as it was for Just Cause's known situation and plan. The second stage might involve a unified commander or National Command Authorities sensing the situation where a crisis could be developing and moving forces in that direction. Navy/ Marine amphibious ready groups are useful here; they can move quietly without alerting the press or other curious parties.

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experience by the Army/Air Force Warrior Preparation Center at Ramstein Air Base in Germany, SacEur (Supreme Allied Commander Europe) has recently used warfare simulation to exercise his senior subordinates and their staffs. The Army uses JESS (Joint Exercise Support System) to exercise corps and divisions and CentCom has used JESS for Marine and Army formations, but many Air Force officers consider JESS inadequate for theater air warfare. The Navy uses its own ENWGS (enhanced naval wargame system) for operations at sea. The JCS-directed Joint Warfare Center at Hurlburt Field, FL, defines requirements for all-Service warfare simulations. One example which may meet such requirements is Advanced Distributed Simulation (ADS); ADS derives from a DARPA-Army initiative known as SIMNET, which is an advanced technology distributed engagement simulation representing the entities of battle (tanks, infantry fighting vehicles, attack helicopters, etc.) of both sides on visual/ virtual terrain. ADS has exercised fleet and Marine smaller units in a distributed amphibious training exercise. ADS will use a mixture of manned simulators and semi-automation of entities as it moves to brigade and higher echelons, retaining engagement simulation and the visual/virtual terrain. DARPA intends in due course to extend ADS horizontally into tacair, air defense, intelligence, logistics, and other battle systems, and in due time upward to JTF. A major advantage of JTF programs of warfare simulation is that they allow the exercise of the JTFs' actual C3I systems, thereby fostering commander- and troop-motivated improvement in place—essentially C3I after-action reports written before the actions.

Then comes crisis action; this may be fast moving indeed. The National Command Authorities trigger this well-established process and the JCS, Services, CinCs, and others go through an assessment leading to the responsible CinC's courses of action being considered, and a decision. The decision may mean movements and immediate entry into an objective area, or movement without immediate entry. Whichever it is, speed and mass in the movement are almost always valuable. In Desert Shield the first few days, when airborne troops and the early arrivals of sea- and land-based air were all that were on hand, was the time of greatest concern.

As the early days of Desert Shield illustrated, Army, Navy, Marine Corps, and Air Force forces (and the special operations forces of SoCom) each have their particular "time to move and be ready to fight" characteristics. So far, a definitive story of whose forces arrived when in Desert Shield, and how ready they were for combat when they arrived, has not appeared for the public to view. This may be because, although arrival times can be determined exactly, judgments on readiness to fight are subjective and involve factors open to dispute. Each Service no doubt sees its future prosperity resting in large part on how these matters come to be viewed; one can hope that their resolution does not become embroiled in Service partisanship because all Services' forces will be required as rapidly as they can get there and be ready to fight.

One statement of conventional wisdom might be that "Airborne forces get there fast, but they are light; Marines can get there faster if an amphibious ready group is nearby; otherwise Marines are not as fast as airborne, but when they do get there they are heavier; the Army's armor/mechanized forces can get there in weeks if fast sealift is immediately available; the Navy's carriers can be in position quickly if they are nearby, and carriers need no bases ashore; Air Force air can be there sooner depending on how far the carriers have to move." And so on.

It would do no harm if each Service were to do all it can within its assigned sphere to exploit technology and its own ingenuity toward, in a wide range of conditions, "getting there firstest (fastest) with the mostest." At the same time, joint mechanisms can address matters of airlift and sealift, prepositioning, forward bases, logistics and the like to the benefit of all. A series of scenarios can serve as a basis for visualizing possible employments of force projection forces and arriving at insights.

At the same time, students of the operational art can be addressing how various mixes of Service forces can be employed with the kind of classic operational style that characterized Just Cause and Desert Storm, namely a sound military plan, well executed, in which surprise, mass, unity of command, simplicity, flexibility,

the objective, and other principles of war—plus proven concepts like precision, timing, mutual support, and mission-type orders—are applied.

Operation Swift Strike, 2002 AD.

Here is one futuristic scenario, for what it's worth: In 1991, the JCS/Joint Staff/Services/Combatant Commands embarked on creating an integrated all-Service capability and doctrine for air/land/sea force projection and all-Service forcible entry. The Air Force/TransCom developed new thinking on airlift requirements; the Army/Air Force/ CentCom/SoCom developed new thinking on airborne/airlanded operations and accompanying materiel requirements; the Army/Navy/Air Force/USMC/TransCom developed new thinking on prepositioning and fast sealift requirements; the Navy/USMC developed new thinking on amphibious operations; and the JCS Chairman with help from the Service Chiefs and the Joint Staff produced an integrated package.

In 1992, the Army equipped a 40-aircraft mix for air-refueled self-deployment. Army/Air Force/CentCom/SoCom practiced self-deployment refueling techniques. The Army activated the 11th Air Assault Division (with one airborne brigade slice) and some SoCom Army units at Schofield Barracks, Hawaii. In 1993 the Army/Air Force/SoCom demonstrated self-deployment of an air assault/airborne/special operations/tacair force mix, Oahu to Darwin, and conducted field exercises with Australian forces.

In the 1990s, PaCom undertook a series of actions to decrease the base development and deployed logistics requirements for a contingency force. One action was to reduce to the bare minimum the supporting units and people to be deployed. In 1992-9X, CinCPac established a standing JTF 19-like force (see page 19) with generally stable makeup (USN/USMC elements changing with deployment schedules), alternating its command between an Army and Marine three-star general and his headquarters (I Corps [Fort Lewis, WA] or III MEF [Okinawa]), and exercised the force often.

Meanwhile, in the mid-1990s Indonesia with Suharto's death came under the rule of expansionist troublemakers looking for neighboring power vacuums to fill and nearby Malays to incite. They began encouraging separatists attempting to split off Borneo's states of Sabah and Sarawak and cast their eyes on oil-rich Brunei, which was unsettled and ripe for internal conflict. By 2000 AD Indonesia had doubled and modernized its armed forces, acquiring ships, aircraft, and missiles from powers willing to sell them.

Indonesia's economy fell on hard times. In the closing years of the 20th century a lieutenant colonel named Saddan Khodaffie led a cabal of like-minded militants in a coup overthrowing Suharto's weak and indecisive successor. Combining the

worst personal characteristics of Libya's Kaddafi, Iran's Khomeini, and Iraq's Hussein of the 1980s-1990s, yet virtually their equal in his hold on the Indonesian people and armed forces, the charismatic Khodaffie acquired a modern arms arsenal and announced a nuclear capability. Khodaffie's undisguised aim at pre-eminence in Southeast Asia raised grave concerns in Indonesia's neighbors.

In 2002, Khodaffie was outraged by Indonesia's failure to gain approval from the World Bank for a multi-billion dollar loan for Indonesian development. Peremptorily, he announced on 30 December 2001 that the Straits of Malacca, Sunda, and Lombok, through which oil tankers from the Persian Gulf and other shipping moved to Japan, South Korea, and Taiwan and across the Pacific, were Indonesian territorial waters. He said that each ship that moved through those straits would be required to pay from $10,000 to $50,000 in cash for passage, depending on its tonnage. The Indonesian navy began patrolling the straits. Khodaffie said that he was not bluffing; his navy would fire on any ship that attempted to force the straits.

Protests by the world community were to no avail. China having flipped over to a hard- line anti-West and anti-Soviet stance, the United Nations was stymied by China's veto. A Liberian-registry tanker carrying oil to Taiwan was believed by an Indonesian frigate at Sunda Strait to be attempting to pass without payment; fired on, it went up in flames.

The United States went about organizing a multinational coalition. The Japanese and French begged off, the British and Australians were game, but time was wasting.

Notes taken in the Oval Office, 10 January 2002...

* * * * * * *

The President said that he had had enough of this. The United States, in coalition with Australia and the United Kingdom, would take swift direct action.

The President said that two things are required for successful direct action. One is the means; the other is the will. Means without will are useless; will without means is pathetic. The President said that he was confident that recent programs for the Department of Defense had created the means for decisive action. He will provide the will. Come to him in 48 hours with a plan.

* * * * * * *

Within 48 hours, the JCS Chairman working with CinCPac had produced a plan. A MEU could be moved within the time limit, but not a MEB; an airborne/airlanded force was ready in Hawaii; a carrier battle group and three tactical air wings could be quickly on the scene. The plan's basic elements (see maps, pages 101-103):

- Primary staging area: Darwin and western Australia
- Advanced base: Christmas Island (Australia), 400 NM south of Sunda
- Precision strikes to take out nuclear capability
- Immediate attainment of air supremacy with fleet, USAF, and Australian air
- Fleet and air action to neutralize the Indonesian navy
- Swift, overwhelming amphibious/airborne/airlanded forcible entry by Marines, Army forces, and special operations forces, supported by carrier and land-based air, to seize an advanced base on Panaitan Island at the southern mouth of Sunda Strait (Sketch, **Figure 18.**)
- The marshalling at Darwin and Christmas Island and vicinity of a multinational two-JTF air/land/sea force (Koreans, British, Mexicans, Canadians and others included), each multinational JTF with US Army/Marine/SOF composition (one built on I Corps and the other on III MEF), plus three US carrier battle groups, six US tactical air wings, and smaller air and sea contingents from the allies—all under command (something less than command, for some allies) of Cdr JTF Swift Strike afloat in USS *Blue Ridge* or its replacement (who is also double-hatted as CinCPacFlt).
- If Khodaffie continues to misbehave or otherwise threaten the peace, a military solution for him along the lines of that provided by CentCom and coalition forces to Saddam Hussein in Desert Storm, in an operation of equivalent style.

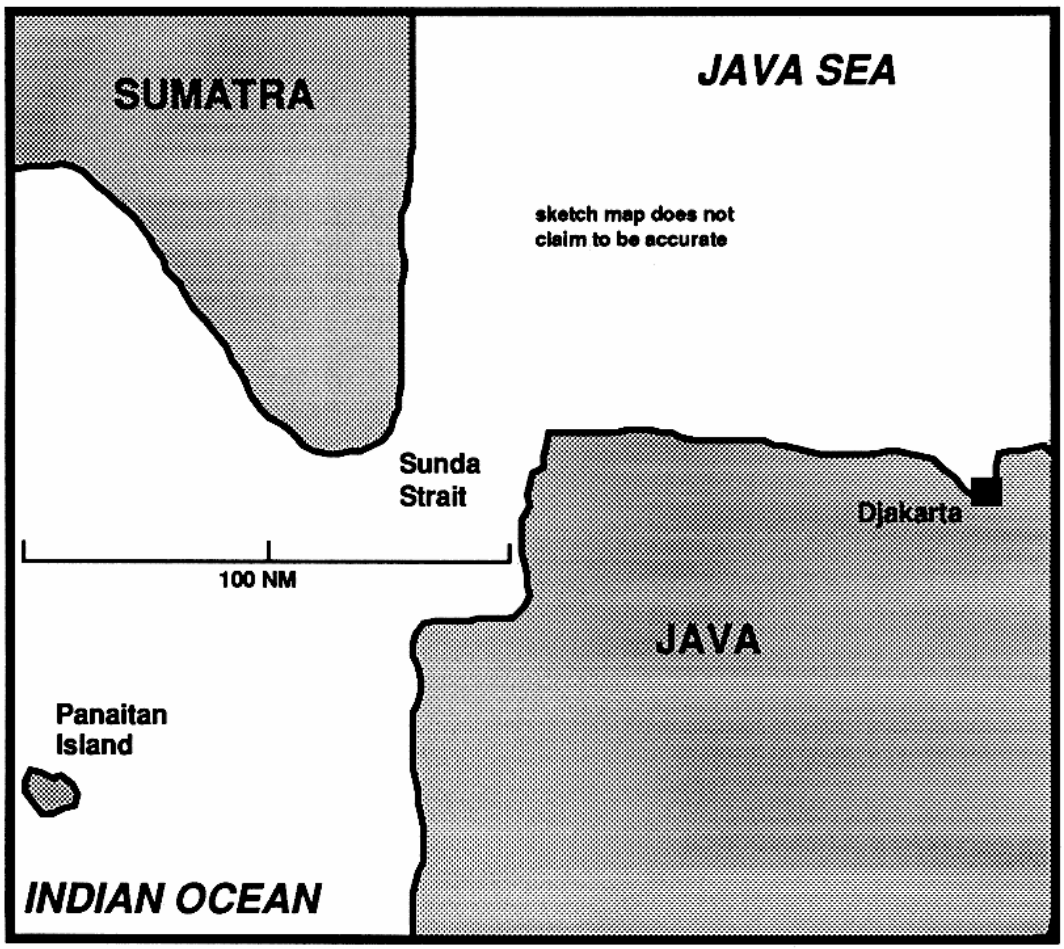
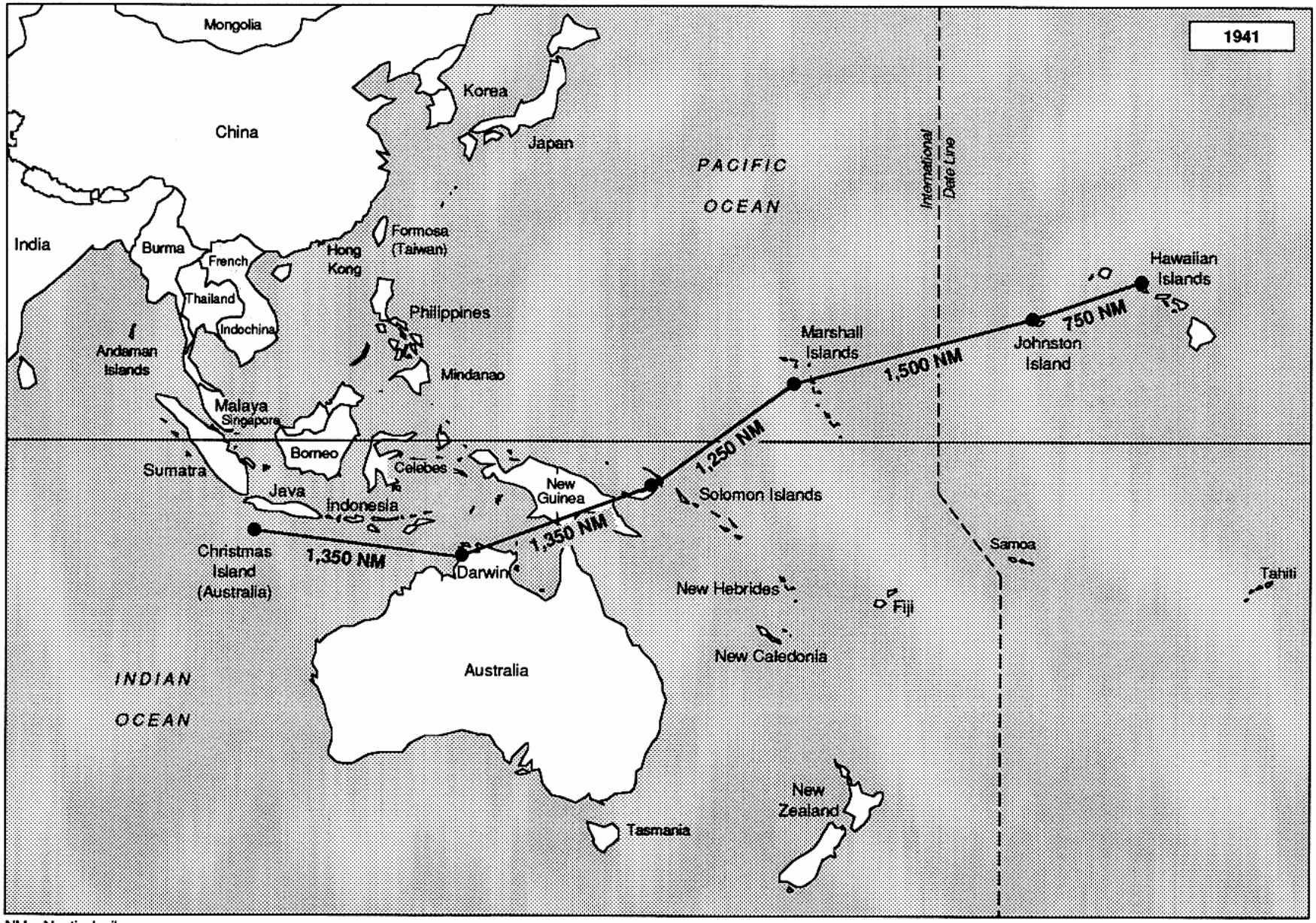
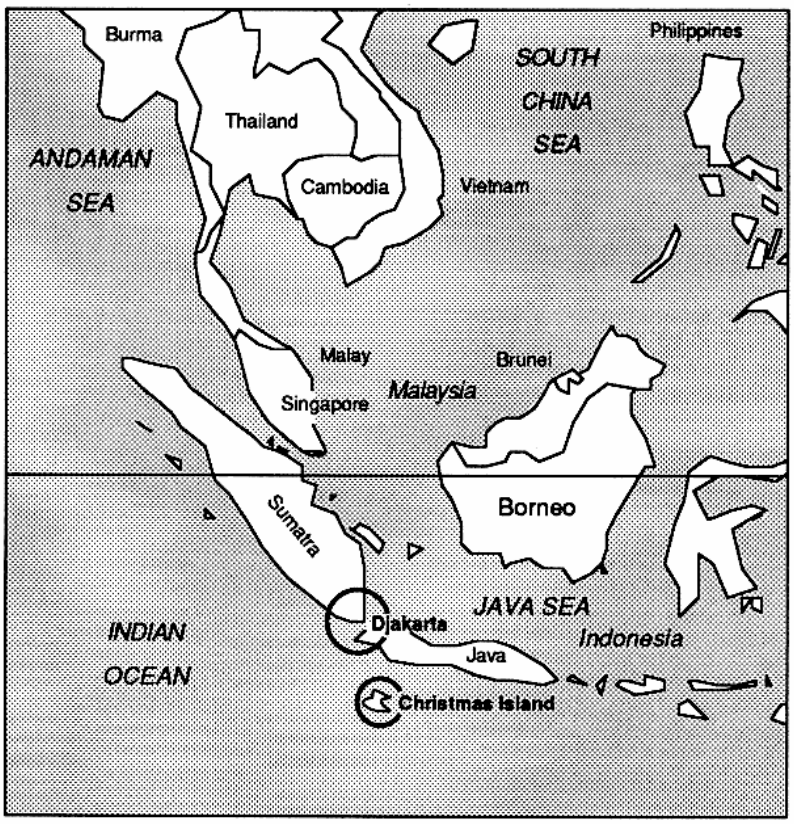


Figure 18. Sketch of Objective Area



NM = Nautical miles


Burma
Thailand
Cambodia
Vietnam
Philippines
SOUTH
CHINA
SEA
ANDAMAN
SEA
Malay
Singapore
Malaysia
Brunei
Borneo
Sumatra
JAVA SEA
Djakarta
Java
Indonesia
INDIAN
OCEAN
Christmas Island

* * * * * * *

The operation was a success. Following is an extract from the after-action report of CinCPac to the Secretary of Defense, March 13, 2002:

> *...Operation Swift Strike was a success because (1) each element of the US chain of command and direction performed in its proper role, (2) Cdr JTF Swift Strike executed a sound plan that applied proven principles, (3) US troop proficiency and teamwork was superb—the result of effective training, especially joint training, and (4) we achieved overwhelming mass in the objective area...*
>
> *...The fact that we had our US act together made it far easier to bring our allies effectively into the fight...*
>
> *You may remember that in 1990 President Bush laid out the requirements for future force projection forces. He called for... "[forces]...in existence [and] ready to act...[with] speed and agility..." "forces that give us global reach..." troops that are "well-trained, tried, and tested—ready to perform every mission we ask of them..." "a new emphasis on flexibility and versatility..." "...readiness must be our highest priority."*
>
> *You, and we in the Pacific Command with others' support, have given this President such forces when he needed them. The muscles of the forces were superior, as were their nerves.*

Appendix A Abbreviations and Acronyms

A-10	USAF close air support fighter
aaslt	air assault
AAV	assault amphibian vehicle
abn	airborne
ACE	air combat element
ADA	air defense artillery
ADEA	Army Development and Employment Agency
admin	administration
ADS	Advanced Distributed Simulation
AEF	American Expeditionary Forces
AF	numbered air force, or US Air Force, depending on context
AFB	Air Force Base
AFFOR	US Air Force component of a joint force
AFLant	US Air Force component of US Atlantic Command
AI	air interdiction
air def	air defense
ALFA	Air/Land Force Application (Agency)
alft	airlift
ALO	air liaison officer
amphib	amphibious or amphibians, depending on context
Apache	AH-64 attack helicopter
APG	armor protected gun (i.e., light tank), under development
ArCent	US Army component of US Central Command
ARG	amphibious ready group
ArLant	US Army component of US Atlantic Command
ARFOR	US Army component of a joint force
armd	armored
arty	artillery
ASOC	air support operations center
AT	antitank
ATF	amphibious task force
ATO	air tasking order
ATS	Army Transport Service
AV-8B	short/vertical takeoff and landing attack aircraft
avn	aviation
AWACS	airborne warning and control system
B-52	bomber aircraft

BAI	battlefield air interdiction
BCE	battlefield coordination element
bde	brigade
BLT	battalion landing team
bn	battalion
BSSG	brigade service support group
btry	battery
C2	command and control
C3	command, control, and communications
C3I	command, control, communications, and intelligence
C-5	heavy airlift aircraft
C-17	heavy airlift aircraft under development
C-130	medium airlift aircraft
C-133	medium/heavy airlift aircraft (obsolete)
C-141	medium/heavy airlift aircraft
CAC	(US Army) Combined Arms Center
CAS	close air support
CASF	composite air strike force
CAT	crisis action team, or common air tasking, depending on context
CATF	commander amphibious task force
cbt	combat
cbt engr	combat engineer
cdr	commander
CentAF	US Air Force component of US Central Command
CG	commanding general
CH-46	medium cargo helicopter (USMC)
CH-47	medium cargo helicopter (US Army)
CH-53	heavy lift helicopter
CinC	Commander-in-Chief
CinCCent	Commander in Chief, US Central Command
CinCLant	Commander in Chief, US Atlantic Command
CinCLantFlt	Commander in Chief, Atlantic Fleet (US Navy component of Atlantic Command)
CinCPac	Commander in Chief, US Pacific Command
CinCPacFlt	Commander in Chief, Pacific Fleet (US Navy component of Pacific Command)
CinCSOC	Commander in Chief, US Special Operations Command
CinCSouth	Commander in Chief, US Southern Command
CINCXXX	A fictitious unified commander
CJCS	Chairman, Joint Chiefs of Staff

CLF	commander landing force
co	company
COSCOM	corps support command
CRAF	Civil Reserve Air Fleet
CSSE	combat service support element
CTF	commander task force
CTG	commander task group
CVN	nuclear powered aircraft carrier
DARPA	Defense Advanced Research Projects Agency
det	detachment
div	division
DoD	Department of Defense
DS	direct support
EA-6B	electronic warfare aircraft
elm	element
engr	engineer
ENWGS	enhanced naval wargame system
EuCom	(US) European Command
EW	electronic warfare
F-4	fighter aircraft
F-15	fighter aircraft
F-16	fighter aircraft
F-111	fighter aircraft
FA	field artillery
F/A-18	fighter/attack aircraft
FMFLant	Fleet Marine Force, Atlantic
ForsCom	Forces Command (JCS specified command), or the US Army Forces Command (Army major command using same headquarters) depending on context
Ft McPh	Fort McPherson, Georgia
GCE	ground combat element
GHQ	General Headquarters
gp	group
grd	ground
HMA	USMC attack helicopter squadron
HMH	USMC heavy lift helicopter squadron
HML	USMC utility helicopter squadron

HMM	USMC medium lift helicopter squadron
hqs	headquarters
HTLD	high technology light division
inf	infantry
intel	intelligence
J-3	staff officer for operations on a joint staff
J-4	staff officer for logistics on a joint staff
J-6	staff officer for communications-electronics on a joint staff; Command, Control, and Communications Directorate of the Joint Staff, depending on context
J-7	Operational Plans and Interoperability Directorate of the Joint Staff
J-8	Force Structure, Resource, and Assessment Directorate of the Joint Staff
JCS	Joint Chiefs of Staff
JDA	Joint Deployment Agency
JDS	Joint Deployment System
JESS	Joint Exercise Support System
JFACC	joint force air component commander
JFDG	Joint Force Development Group
Joint Pub	Chairman, JCS, Publication (formerly JCS Pub)
JOPES	Joint Operations Planning and Execution System
JOPS	Joint Operations and Planning System
JSOTF	joint special operations task force
JSTARS	joint surveillance target attack radar system aircraft
JTC3A	Joint Tactical Command, Control, and Communications Agency
KC-130	tanker aircraft
LAAD Bn (Stgr)	USMC air defense battalion, Stinger equipped
LAAM Bn (Hawk)	USMC air defense battalion, Hawk equipped
LAI	light armored infantry
LantCom	(US) Atlantic Command
LantFlt	Atlantic Fleet (US Navy component of Atlantic Command)
LCAC	landing craft air cushion
LHA	amphibious assault ship (*Tarawa* class)
LHD	amphibious assault ship (*Wasp* class)
LHX	light helicopter, experimental (Comanche)
LPH	amphibious assault ship (*Iwo Jima* class)
log	logistics

lt	light
lt armd inf	light armored infantry
M-1 (M-1A1)	a model of tank
M-60	an older model of tank
MAG	Marine Aircraft Group
MAGTF	Marine Air-Ground Task Force
maint	maintenance
Mar	Marine
MarCent	US Marine Corps component of US Central Command
MARFOR	US Marine Corps component of a joint force
MATS	Military Air Transport Service
MEB	Marine Expeditionary Brigade
mech	mechanized
med	medical, or medium depending on context
MEF	Marine Expeditionary Force
MEU	Marine Expeditionary Unit
MEU (SOC)	Marine Expeditionary Unit (Special Operations Capable)
MI	military intelligence
MPF	maritime prepositioning force
MSC	Military Sealift Command
MSE	mobile subscriber equipment
MSTS	Nilitary Sea Transport Service
MTMA	Military Traffic Management Agency
mtr	motor
mtr trans (MT)	motor transport
NATO	North Atlantic Treaty Organization
NavCent	US Navy component of US Central Command
NAVFOR	US Navy component of a joint force
NavLant	US Navy component of US Atlantic Command
NTS	Navy Transport Service
OA-4A	high speed observation aircraft
opcon	cperational control
OPFOR	opposing force
opnl	operational
opns	operations
OSD	Office of the Secretary of Defense
OV-10	slow flying observation aircraft

PaCom	Pacific Command
PhibGru	amphibious group
PhibRon	amphibious squadron
plat	platoon
pub	publication
recon	reconnaissance
regt	regiment
rein (reinf)	reinforced
RF-4B	photo reconnaissance aircraft
RCT	regimental combat team
RLT	regimental landing team
SAC	Strategic Air Command
SacEur	Supreme Allied Commander Europe
SAMS	School of Advanced Military Studies
SEAL(s)	sea-air-land team (US Navy special operations forces)
SecDef	Secretary of Defense
SF	special forces
sig	signal
SOC	special operations capable
SoCom	(US) Special Operations Command
SOCLant	Special Operations Command component of US Atlantic Command
SOF	special operations forces
SOFOR	US Special Operations Command component of a joint force
sp opns (spl opns)	special operations
spt	support
sqdn	squadron
SSM	surface-to-surface missile
SSN	attack submarine, nuclear powered
svc	service
TAC	Tactical Air Command
tacAL	tactical airlift
TACC	tactical air control center (USAF andUSN); tactical air command center (USMC)
TACP	tactical air control party (USAF and USMC)
TADC	tactical air direction center (USMC and USN)
tac ftr	tactical fighter
TAOC	tactical air operations center (USMC)

TASS	tactical air support squadron (USAF)
TF	task force
TFS	tactical fighter squadron
tk	tank
TOW/LAV	antitank missile mounted on light armored vehicle
TRADOC	(US Army) Training and Doctrine Command
UH-1	utility helicopter
UH-60	utility helicopter
UN	United Nations
US	United States
USA	United States of America, or United States Army depending on context
USAF	United States Air Force
USEuCom	US European Command
USLantCom	US Atlantic Command
USMC	United States Marine Corps
USN	United States Navy
USPaCom	US Pacific Command
USSoCom	US Special Operations Command
USSouthCom	US Southern Command
USSpaceCom	US Space Command
USSR	Union of Soviet Socialist Republics
USTransCom	US Transportation Command
USXXXCOM	A fictitious unified command
V-22	vertical takeoff and landing aircraft (Osprey), under development
VMA	USMC attack squadron
VMFA	USMC fighter/attack squadron
wg	wing

PPFFP

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