Command and Control of Theater Forces: Issues in Mideast Coalition Command

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Program on Information Resources Policy

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Lieutenant General John H. Cushman, U.S. Army, Retired, is a Research Affiliate of the Program on Information Resources Policy.

The Command and Control Research Program (CCRP), National Defense University, has a special interest in the issue of the command and control of coalition forces and has participated actively in reviewing and editing this report prior to its printing. The CCRP believes that this paper makes a significant contribution in its treatment of this vital issue.

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Summary

If war occurs in the "new world order" of major power cooperation which is now replacing the era of the Cold War, the probability is high that it will be coalition warfare. An instance now in progress is the coalition force of the United States and other nations now gathering on the Arabian peninsula. If Saddam Hussein does not back down and leave the Kuwait he conquered, that coalition force may go to war. This paper examines how that war, should it occur, might be directed in its political/strategic and operational/tactical dimensions, with an eye to the linkages between the two dimensions.

The emerging Mideast coalition involves an uncertain membership in unfamiliar relationships; it is plowing new ground with no regional precedent to fall back on. This paper raises issues germane both to the Mideast force and to possible future coalitions: "How is the political/strategic guidance of the force to be formulated?" "What will be the command structure of the force?" "How will the force be organized for combat?" "How will it fight?" "How will its command and control structure be made fully ready for battle? "How will the force itself be trained in teamwork?"

A review of coalition warfare arrangements since 1941 -- in World War II, in the 1950-53 Korean War, in Korea today, in Vietnam, and in NATO -- underscores the complexities and variety of command arrangements inherent in coalition warfare and brings out both the difficulties of directing a coalition's strategy and ways of addressing these difficulties. Conduct of operations is equally problematical; looking at theater (air/land/sea) war, the paper addresses matters of detail which mixed national and Service formations must do well. The problem here is how to achieve a high order of performance in a mixed force.

Success in the Mideast coalition endeavor requires military operations which, if and when undertaken, are superior both in their planning and in their conduct. This paper offers a discussion of issues and a treatment of available options toward that end; its context is that such challenges are formidable and that there will be only one opportunity to do each right.

Preface

John H. Cushman began drafting *Command and Control of Theater Forces: Issues in Mideast Coalition Command* in August 1990. He circulated author's drafts in September and October, and in mid-November the Program mailed its first draft to senior addressees in the U.S. government. In December, the Program more widely circulated an identical draft for reviewer comments. The body of this report is the November draft, revised only to correct inaccuracies and other errors reviewers called to our attention.

The Appendix is an article drawing on the December draft, current as of February 1, 1991 and prepared for publication in the May 1991 issue of *Naval Institute Proceedings*. It is printed here by agreement with the publishers of *Proceedings*.

We believe this publication can be useful as a baseline for eventual post-action analysis of the Middle East war and as one foundation stone for further thinking about command and control under the ad hoc, fluid global conditions that are replacing the relatively settled conditions of the Cold War's waning days.

Anthony G. Oettinger
February 19, 1991

Foreword

This paper of the Program on Information Resources Policy addresses issues of command and control of the multinational forces assembling in the Persian Gulf and Mideast, responsive to Iraq's seizure of Kuwait. The paper's intended audience is anyone, in or out of government, American or otherwise, who finds the subject and its treatment of interest and is reasonably well informed on the subject -- from commanders and staffs involved on the scene, to more distant policy and decision makers, academics and think tankers, members of Congress and their staffs, and the informed press and public.

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.

PIRP papers go through three stages of preparation. The author's working drafts make up the first stage. The second stage is a "yellow cover" draft, circulated by the PIRP to knowledgeable authorities for comment. The final stage is the completed paper, published by the PIRP. While all PIRP papers are unclassified, distribution of drafts in the first and second stages is often controlled. This paper is offered as the "yellow cover" draft.

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.

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The Challenge

The United Nations' response, August 2, 1990, to Iraq's invasion that day of Kuwait began an unprecedented display of multinational cooperation to contain the aggressor and cause him to give up his conquest, and set in motion a massive assembly of US and other nations' military forces in the Middle East and Persian Gulf. Few more daunting challenges to military command and control can be found than that emerging for the Middle East force now gathering.

One, the operational theater is huge (map next page). If war comes, Iraq will be the focus and Kuwait and nearby Saudi Arabia and Iraq the air/land battlefield. Airpower will strike from bases down the Persian Gulf as far as Oman and from carriers in the Mediterranean, Red, and Arabian Seas. Imagine that you are running this operation from Baltimore instead of Riyadh. Your targets go west of Milwaukee, your air/land battle is along the Ohio, and your tactical air comes in large part from waters off Tampa and Newfoundland.

Two, the adversary is no pushover. He has many more divisions than our arrayed forces, with thousands of tanks and the artillery and armored personnel carriers to go with them. He has surface-to-surface and air defense missiles in quantity. He has a sizeable and fairly modern air force. He has chemical weapons and their delivery means. He has high technology for electronic warfare and command and control. He has years of battle experience. He has motivation. He seems willing to take heavy casualties.

Three, the other nations' forces are a mix (Annex 1), and for the first time forces of Arab nations are arrayed alongside those of the US. This means that US Mideast forces are joined, if not in a formal alliance, at least in some sort of coalition endeavor, and fighting such mixed forces is always fraught with problems. Although Mideast politics are one of a kind, there is little new in principle here; the US since 1941, both in war and in peacetime deterrence, has coped with varying coalitions' sometimes quite disparate mixes of forces.

Four, US forces are also mixed (Annex 1). Were it not that their people look alike in desert battle dress, one might think the Services' forces were from different countries. Leaving aside their sustaining logistics, the Army and Air Force units of the force are organized and trained to fight air/land battles one way; the Marines do it another way. If one considers attack helicopters as "tactical air," for example, there are four US tactical air forces to coordinate, each with its own self-developed ways of command and control. Again, nothing new in principle; the US has been down this road before.

Five, advanced weaponry will populate the battlefield -- from the M-1 tank and Patriot air-defense system to the Tomahawk cruise missile -- and high-tech electronic and computer-based systems for intelligence collection, electronic warfare, and command and control. Most of this has never before been used, not to mention tied together, in battle.

Middle East


Black Sea
Bosporus
İstanbul
Samsun
Trabzon
Caspian Sea
Dardanelles
Bursa
Ankara
Eskişehir
TURKEY
Erzurum
Aegean Sea
İzmir
Kayseri
Lake Van
Van
Denizli
Konya
Malatya
Diyarbakır
Tabriz
Antalya
Adana
Mashhad
Zanjan
Qazvin
Mosul
Irbil
CYPRUS
Nicosia
Karkūk
SYRIA
Mediterranean Sea
Beirut
LEBANON
IRAN
Baghdād
IRAQ
Haifa
ISRAEL
Tel Aviv-Yafo
Jerusalem
Gaza Strip
Al Hillah
Al Kūt
Alexandria
Amman
JORDAN
An Nāṣirīyah
Al Baṣrah
Abadan
Aqaba
KUWAIT
Kuwait
Bandar-e Būshehr
Iraq-Saudi Arabia Neutral Zone
Tabūk
Sharm ash Shaykh
Bandar-e 'Abbās
Persian Gulf
Ad Dammām
Manama
BAHRAIN
QATAR
Doha
Dubayy
Abu Dhabi
Gulf of Oman
SAUDI ARABIA
Riyadh
Medina
Yanbu' al Baḥr
UNITED ARAB EMIRATES
Jiddah (Jeddah)
Mecca
no defined boundary
Red Sea
Duqm
Salālah
Jīzān
PEOPLE'S DEM. REP. OF YEMEN (SOUTH YEMEN)
Al Ghaydah
Al Ḥudaydah
Aden
Gulf of Aden
Socotra (P.D.R.Y.)
Bab el Mandeb
Scale 1:18,000,000
500 Kilometers
500 Nautical Miles
*The Golan Heights is Israeli
Syria; the West Bank and G
are Israeli occupied with sta
determined.
Boundary representation is not necessarily authoritative.

Figure 1, below, lays out four familiar levels of "command and control" of military forces -- call them "levels of direction" -- political, strategic, operational, and tactical. While the four terms are generally accepted by both concerned practitioners and interested scholars, the boundaries between levels are matters of much discussion. This paper does not try to define these boundaries precisely; readers can define them as they will and a high order of precision matters not. Suffice it to say that, if war should come to the Mideast, the world cannot accept less than superlative execution of the command and control of the forces that wage it, at all four of these critical levels of direction.

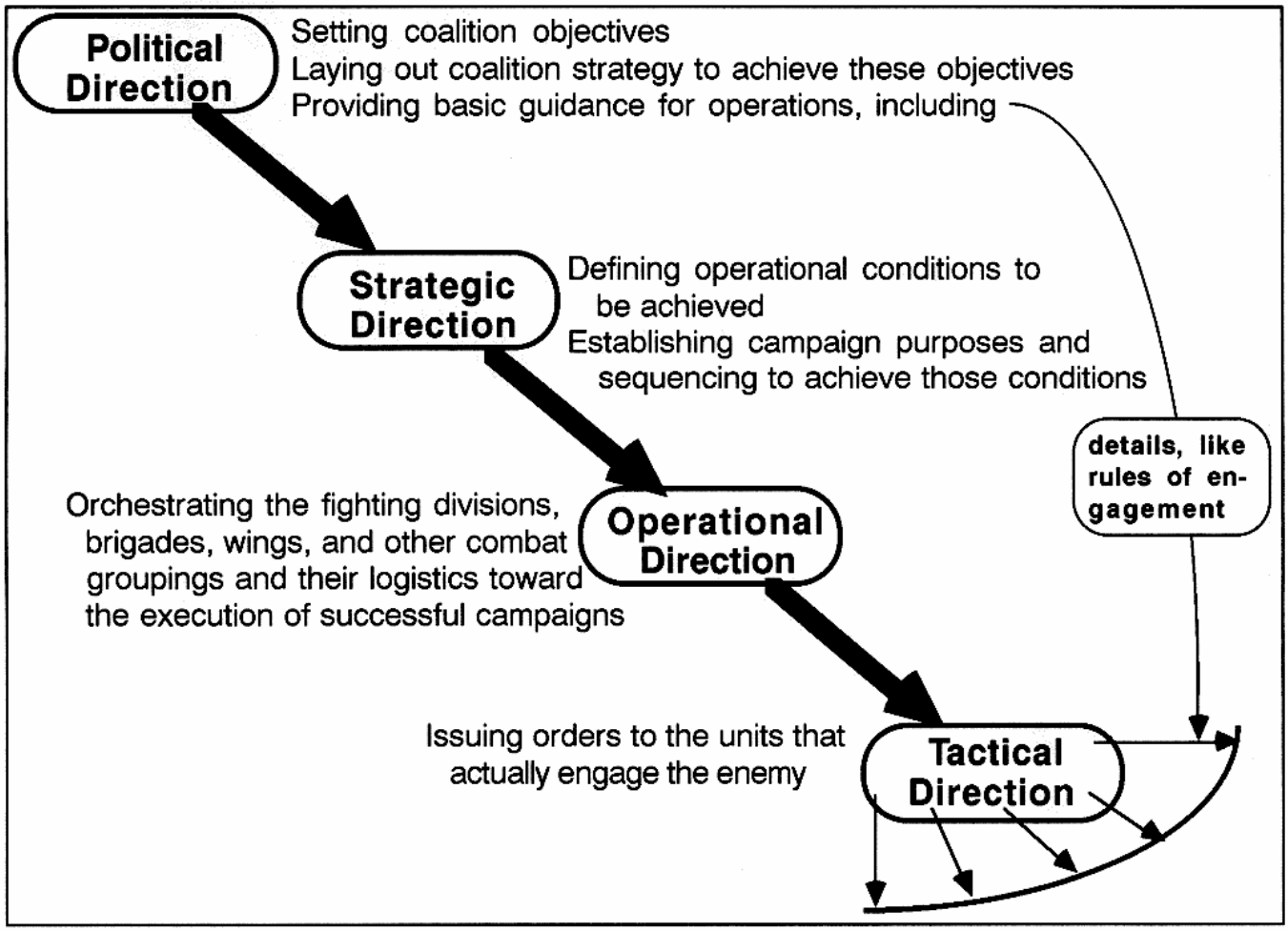

Figure 1. The Chain of War's Direction

The matter is urgent. War may well come, and superior performance is not guaranteed in any of the four and by no means in their composite; a comprehensive study has indeed found it rare.* The Mideast's challenge is to achieve superior performance in all four.

*Military Effectiveness, edited by Allan R. Millett and Williamson Murray, (Boston, Allen & Unwin, 1988). This three volume study of the political/strategic/operational/tactical effectiveness of Germany, Italy, Japan, Russia (USSR), France, Britain, and the US in the two World Wars and in the period between was sponsored by the Director of Net Assessment, Office of the Secretary of Defense.

Part One. Political/Strategic Direction

Chapter I. Cases: World War II, Korea, Vietnam, and NATO

Generally, political/strategic direction is the product of a nation's, or coalition's, highest political and military authorities working in concert, with leadership in political guidance being the domain of high political authorities and strategic direction being the area of expertise of high military authorities. A theater commander-in-chief can join the high military authorities in formulating strategic direction; in the cases which follow he usually did, or does. The field commander then turns his attention to in-theater strategic direction. In action the institutions and processes for political and strategic direction are so closely linked that the two forms of direction should be looked at together; we do so here.

World War II

After Pearl Harbor, the United States and Britain developed an admirable system for formulating and providing political and strategic direction to the two nations' global military effort. The system's centerpiece was the Combined Chiefs of Staff, which responded to the two heads of government through their respective Chiefs of Staff and issued periodic directives to the unified and coalition commands. Figure 2.

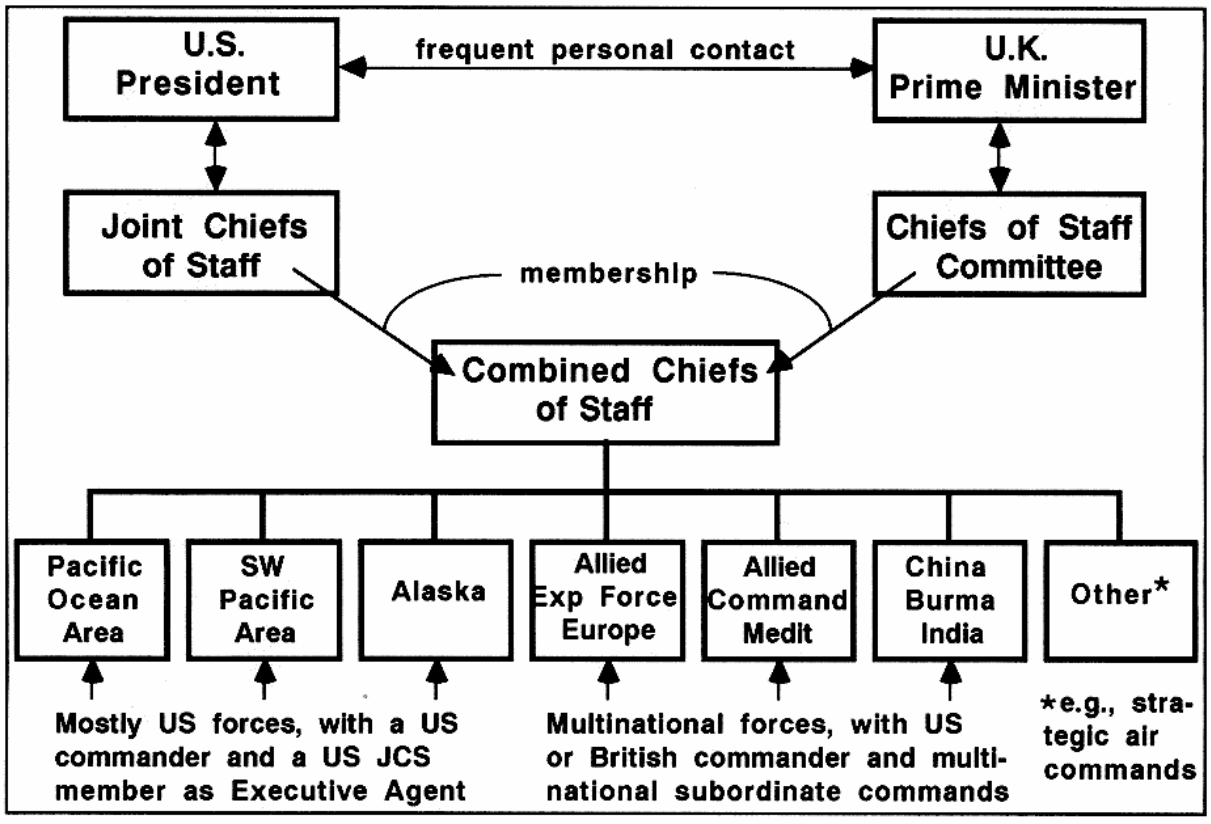

Figure 2. Political and Strategic Direction in World War II

Korea, 1950-53

Quickly after North Korea's invasion, the United Nations Security Council (its sessions boycotted by the USSR over China's representation) called on member nations for forces and named the US President its executive agent for the UN coalition's field command*. The United States then dominated political-strategic direction of the war. Figure 3.

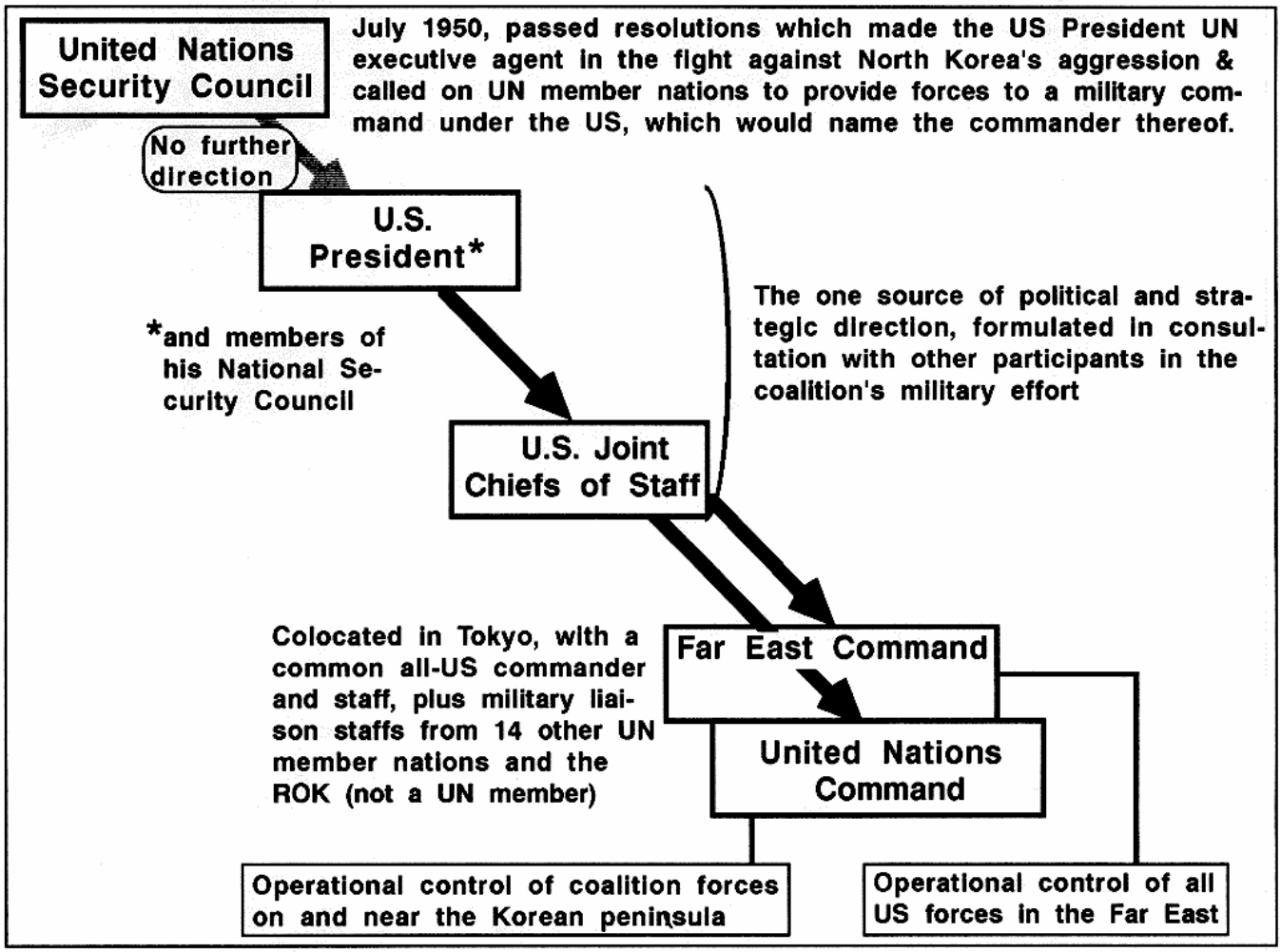

Figure 3. Political/Strategic Direction in the Korean War

Korea, Today

In 1978, realizing the need to give the Republic of Korea a greater role in decision-making and operations for the defense of its territory, the United States and the ROK established a ROK/US Combined Forces Command and put into place the ingenious arrangement for its political and strategic direction in peace and war (Figure 4). The chart does not show

*Responding to the UN call, Australia, Belgium, Colombia, France, and the Netherlands sent infantry battalions; Canada, the Philippines, Thailand and Turkey sent regimental combat team or brigade size forces; Britain sent two brigade groups which formed most of the Commonwealth Division. Other than the US, eight nations sent naval forces, four sent air forces, nine sent transport, and six sent medical support. See Max Hastings, The Korean War (New York, Simon and Schuster, 1987) pp. 365-367.

the vestigal United Nations Command to which seven UN members remain accredited (Australia, Canada, New Zealand, Philippines, Thailand, United Kingdom, and the United States, with all but the US providing only ceremonial forces). As the latest CINCUNC in a succession of commanders which began with General Douglas MacArthur, the multi-hatted American commander in Korea remains today responsible to the US President for insuring both sides' observance of the Military Armistice Agreement, which his predecessor General Mark Clark alone signed for the UN side in 1953.

Nor does Figure 4 show the US-only chain of command, in which USCINCPAC (Commander-in-Chief, US Pacific Command) has "combatant command" of the sub-unified command known as US Forces Korea with its Service components. The CINCUNC/CINC CFC is careful to remain responsive to CINCPAC even when the issues are largely ROK/US or United Nations relevant. (Note: As this is written, the US and ROK governments are negotiating a new command arrangement aiming at increasing ROK influence.)

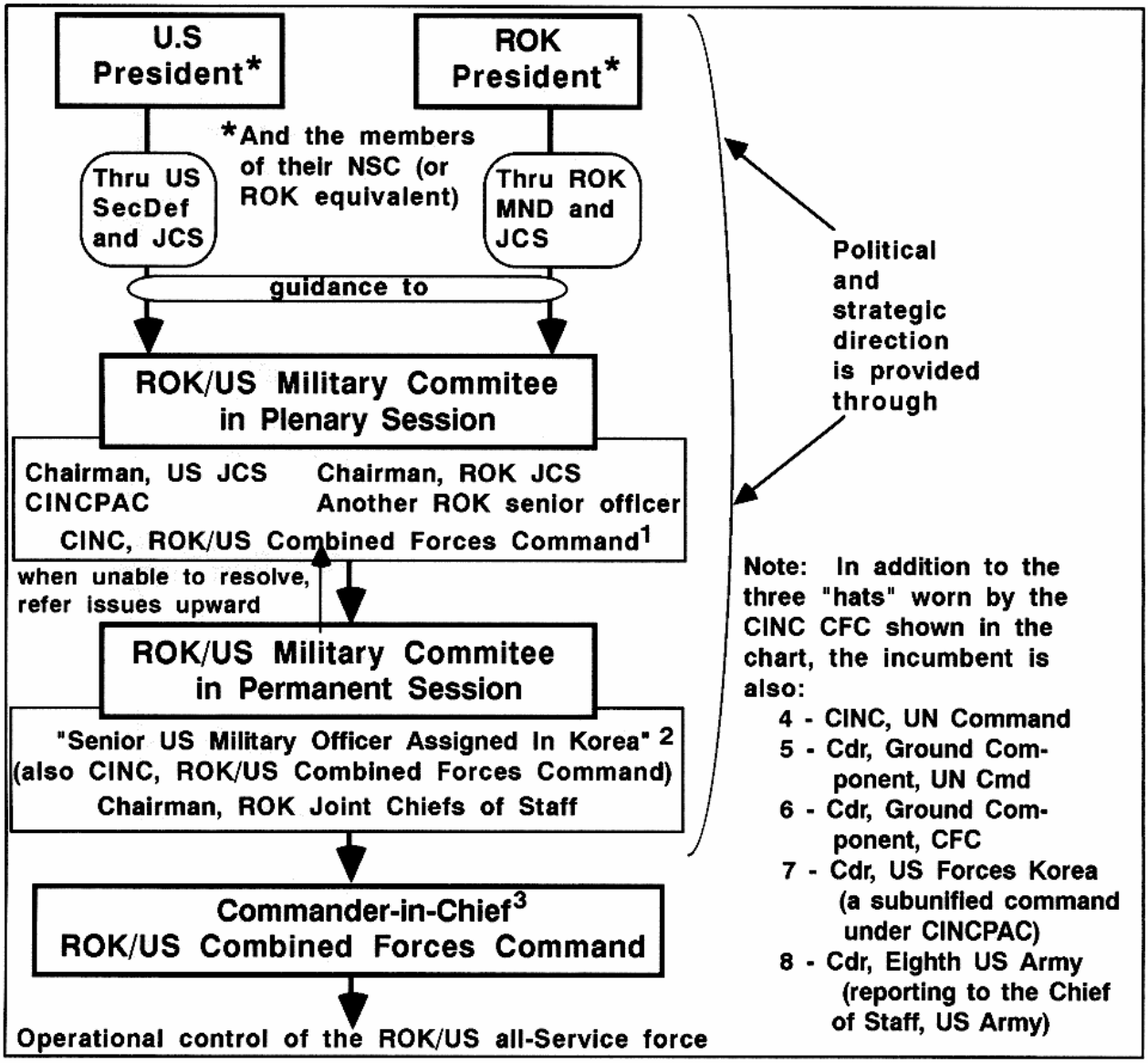

Figure 4. Political/Strategic Direction of the ROK/US Coalition

Vietnam

The system for political/strategic (and operational/tactical) direction of the Vietnam War's binational fighting phase, essentially 1965-73, looked something like this (details of the parallel command chains for operational and tactical direction are not shown*):

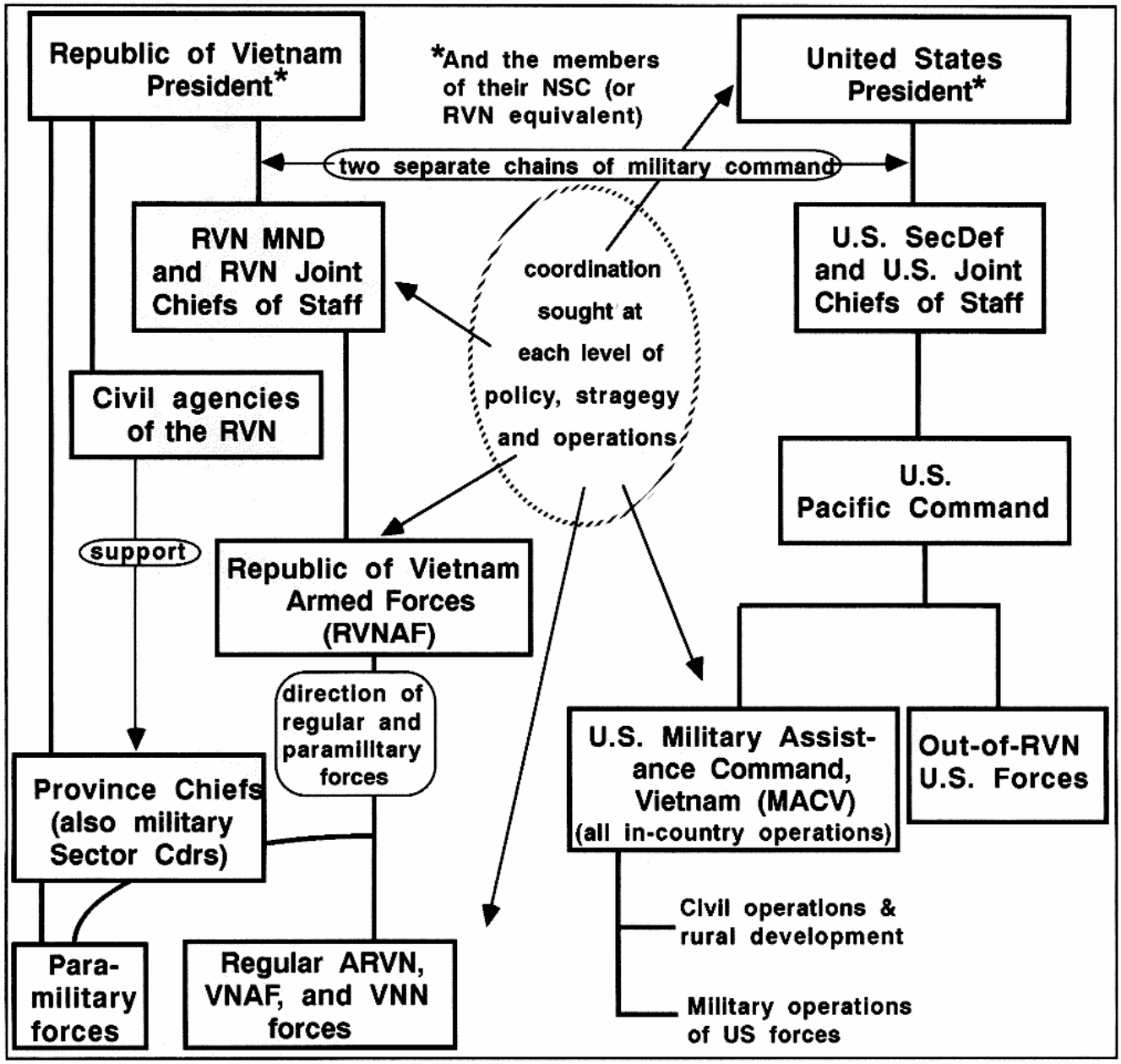

Figure 5. Political/Strategic Direction of the Vietnam War

As noted in the oval, coordination was sought. But, because the United States provided most of the material resources for the Vietnamese and supported the Republic of Vietnam

*Third countries' forces (two Republic of Korea divisions and a marine brigade and a small Australia/New Zealand contingent) came under the operational control of the Cdr MACV. George S. Eckhardt, Vietnam Studies; Command and Control 1950-1969, (Washington, Department of the Army, 1973) pp. 46,53.

with hundreds of thousands of American ground troops and the air and sea forces to go with them, the US essentially called the policy and strategy tune for the coalition, dominating the political-military authorities of the Republic of Vietnam from the time US combat forces were introduced in substantial numbers until the Americans pulled out and left the Vietnamese on their own.

NATO

Over some four decades of sucessful deterrence of Soviet attack (but with neither fighting nor a single crisis deployment to test its efficacy in action), the North Atlantic Treaty Organization has evolved an elaborate structure for the political and strategic direction of the alliance's three military commands. Figure 6.

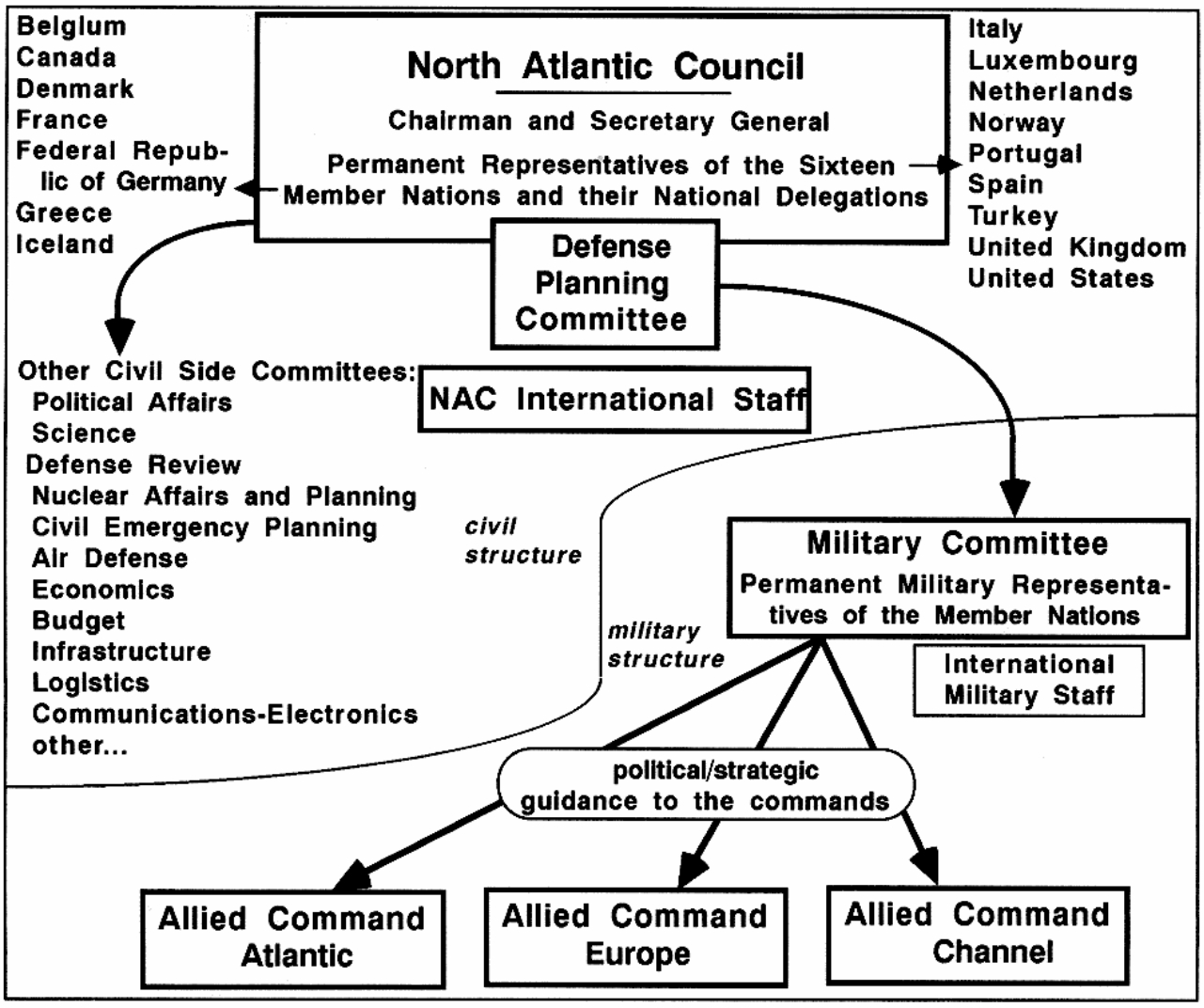

Figure 6. Political/Strategic Direction of the NATO Alliance

* * * * * * *

Thus, for fifty years, America has fought in and has stood in readiness for war in coalitions, among them some formal alliances, with their members varying from two to sixteen. The Mideast will see one more coalition, its membership still emerging, its structure yet to be determined, and its challenge at least equal to any in the American experience.

Chapter II. The Mideast Situation: The Nations

Other than the United States, who will be the coalition members in the Middle East, and, among them, who will be the key deciding nations -- those who will have a key voice in formulating political guidance and strategic direction for the coalition force?

Saudi Arabia is already a key nation. US forces are on its territory and are being supported there free of charge. The Commander-in-Chief, US Central Command, General H. Norman Schwarzkopf, has his command center in the Saudi's Ministry of Defense building in Riyadh. An informal coalition is in place and operating, with General Schwarzkopf perhaps deferring, or possibly taking the lead, in the force buildup and defensive phase, and surely bringing considerable influence to bear on whatever operational planning is under way. Using their separate command chains, the two nation's military staffs on the scene are no doubt sharing intelligence and closely coordinating both the force buildup and current operational details such as air defense warning and identification.

The other Persian Gulf sheikdoms (the United Arab Emirates, Qatar, Bahrain, and Kuwait) and Oman are probably key nations; their support, already pledged, is needed. Further, they help make up the Arab League majority that supports the UN resolutions for Iraq to get out of Kuwait. These nations' interests are nearly identical to those of Saudi Arabia.

Egypt is without question a key nation. President Mubarak has repeated his insistence that Iraq leave Kuwait unconditionally; he has committed two armored divisions to the desert forces and seems prepared, after a suitable wait, to go to war if necessary.

Syria, although probably less key than Egypt, is important because of its position on Iraq's flank and its influence in the Arab League. Hating Saddam Hussein but playing his own game, President Assad may support an action plan that brings down the Iraqi dictator (and consequently elevates Syria's standing as a Mideast power). Assad too is augmenting his forces in the Saudi desert.

Other supportive Arab League nations (Lebanon, Djibouti, Somalia, Morocco) are important, but key only in that they help maintain an Arab League majority on the side of the coalition. Jordan, immobile in view of its Iraq-favoring radical Palestine population and its vulnerability to Saddam Hussein's might, and seeking an "Arab solution" (which to Iraq's Hussein means, "Let me have Kuwait"), is no longer key as an ally. In a negative sense Jordan is key; its collapse as a buffer between Iraq and Israel is to be avoided.

Britain and France, who have dispatched forces and are on the Security Council, are key. It would be important, although perhaps not vital, that other NATO allies not object to any given coalition action; their resource support would be valuable both materially and psychologically. There is value in keeping all of NATO on board.

Japan seems to be adapting to the Mideast crisis and the international response thereto with a sea change in its world outlook. But having the Japanese on board the coalition's enterprise, not simply to provide resources but as participants in policy and strategy, may be too much to seek, notwithstanding the advantages. China is a key player because unanimity among the five permanent members of the UN Security Council is essential. The Republic of Korea may contribute resources but will likely not be an important player.

Israel, on the sidelines in readiness but pretty much keeping quiet, will contribute most by continuing that behavior -- which it will probably do as long as Iraq's defeat and the removal of Saddam Hussein seems a likely eventual outcome. Turkey, NATO member and embargo participant, with an army on Iraq's northern border, is key.

The USSR is also key, beyond its permanent place on the Security Council. Beset by grave internal problems and no doubt dismayed at their diminishing economic and military power, the Soviets clearly want nonetheless to play a decisive role. So far, they are on board; under US pressure they may agree to military action to force Iraq out of Kuwait.

The approach of the United States has been to bring all these nations along both bilaterally and through the United Nations. The result has been unprecedented unity and concurrence, an emerging "new world order." Indeed, military action without UN approval is becoming unthinkable and the Security Council and General Assembly are therefore key.

The objectives laid out in UN Security Council resolutions are, first, Iraqi withdrawal from Kuwait; second, restoration of Kuwait's former regime; third, security of Saudi Arabia from Iraqi attack; and fourth, release of the people whom the Iraqis hold against their will. An objective obviously on peoples' minds but as yet undeclared is to remove Saddam Hussein from power and, by dismantling his military machine including whatever chemical, biological, and nuclear means it owns, to rid the region of his bullying. If war comes, that will very likely become a US aim.

The present UN-supported strategy of the loose Mideast coalition is economic and psychological: as airtight an embargo and blockade as possible, plus other pressures (world opinion, danger of war) to persuade Saddam Hussein to pull out of Kuwait. So far, he is standing his ground, cementing his hold on Kuwait, playing for time, waging psychological warfare to confuse and divide, avoiding flagrant provocation, and preparing for war.

Suppose this standoff continues with little or no promise of resolution favorable to the world that has signed up against Saddam Hussein. Would the United States then go to war? Would others? If so, in what sort of coalition? And what would be the political objectives of the coalition force? What would be the military strategy to achieve those objectives? How would these matters be decided?

Chapter III. Options for Political/Strategic Direction, and Implications

A NATO-like framework is one model; decades in evolution, the NATO alliance has provided 40 years of stability. This model seems unlikely for the Mideast, however, given underlying facts of life which govern the operations of the North Atlantic Treaty Organization: (1) Alliance decisions are taken unanimously or not at all. (2) NATO will never use force except in response to attack. (3) National contingents, except for certain air defense forces, are under national command until a North Atlantic Council decision otherwise (and the NAC has never decided otherwise). A NATO-like alliance might work if the political/strategic objective were simply to deter further Iraq aggression southward from Kuwait. But could NATO's arrangement generate an offensive military strategy?

Might the answer in the Middle East be a United Nations coalition on the model of the Korean War, where, when war came, the UN Security Council immediately handed the leader's baton to the United States and said no more? Given the present five permanent members of the Security Council (China, France, the UK, the US, and the USSR), and inasmuch as Kuwait fell quickly and coalition war did not then ensue, there seems little likelihood that, fighting under UN direction should war now ensue, the US would be granted the kind of political/strategic freedom of action it enjoyed in 1950-53.

What about the World War II model, with the USSR taking Britain's place in the two-nation guiding directorate? The British-American alliance of 1942-45 was the product of a common political/strategic appreciation, of initial military desperation and of later warfighting urgency, and of remarkably congruent national characters and outlook. Can this be sufficiently brought about, US and USSR? Would the other nations go along? Would the binational political/strategic product "rule in" decisive military action against Iraq if the blockade fails, or would it rule such action out?

Does the Vietnam model, with its parallel chains of command in a totally different kind of military challenge, make any sense in the Middle East? That model might suffice for political/strategic direction, but would "coordination without common operational command" work in the high-tech, fast moving, violent fighting that a war with Iraq would entail? Perhaps two coordinating chains of command can adequately defend Saudi Arabia*; but might not that scheme cause an offensive to stumble and be unacceptably costly?

Today's arrangement in Korea seems an interesting model. There is a structure for (binational) discussion and decision. There is a United Nations flavor and an underlying UN justification, but without provision for an overriding UN decision. There is unity of operational command both in war preparation and in war execution. Unlike NATO, there is no need for 16-nation unanimity, nor is there the dictum that the coalition will never use force except in response to attack.

*This option seems to be the one in place, November 1990. See General Schwarzkopf interview, Annex 2.

Figure 7 offers two Mideast adaptations alongside the Korea structure of page 13. Policy and strategy in the "tight" version would be formally agreed to by a group of key nations organized as a "Council of Nations"; the other, "loose," would be an informal arrangement among the same nations, built on good faith cooperation and mutual understanding.

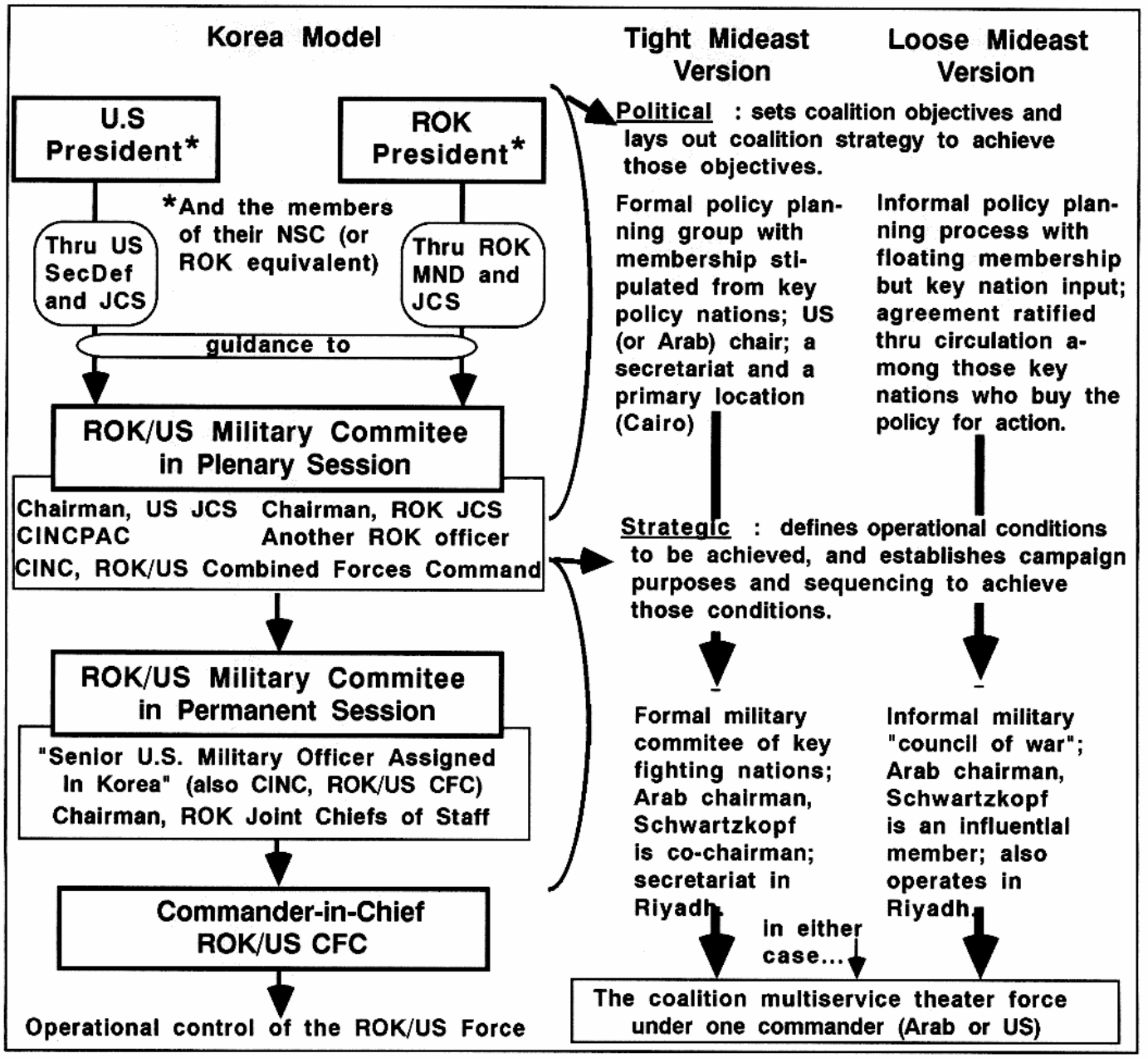

Figure 7. Mideast Adaptations of the Present Korea Arrangement

The Mideast adaptation would differ from its Korean counterpart in that, unlike the latter which stems from decades of participatory political and strategic thinking, the former, with an uncertain membership in unfamiliar relationships, would plow new ground in a shifting situation where the adversary is busy making trouble. It would be severely tested.

The "loose" version may be more rapidly responsive to challenging events, where US leadership plays a decisive role. It would offer the US more flexibility in arranging like-minded national groupings, and perhaps more freedom of action if push finally comes to shove. On the other hand, the "tight" version may produce guidance that is more carefully considered and supported by a broader consensus. "Tight" might be too difficult to work out; "loose" might too easily fall apart.

Issues abound in Figure 7's abbreviated portrayal. What would be the nationality of the chairman of the policy development planning group? One might prefer an Arab (it might best be a Saudi Arabian, but an Egyptian could be considered) statesman, to insure that it is a duly Arab-influenced process. And, what will be the nationality of the force commander? If Arab, how would General Schwarzkopf relate to him? Perhaps as deputy, but perhaps also possessed of his own means (satellite intelligence, for example, or distant fleet and air elements which are not placed under coalition command). Such questions take time to answer; a formal approach to answering them may extend the process unduly.

Some might consider this solution fatally flawed, reasoning that an Arab commander over US forces would be unacceptable to the American people, and a US commander over Arab forces would be unacceptable to Arabs outside the umbrella of a formal United Nations coalition. To make a US commander acceptable under a UN-directed command, an Arab deputy (with real weight in a US-Arab top command team) might clinch the deal.

Another option would be for the United States to go to war essentially alone to restore Kuwait, linking only with the Saudis and their closest friends, and perhaps the British, and writing in the National Security Council and Joint Chiefs of Staff its own political/strategic guidance. This may be feasible militarily; with UN approval it might be feasible politically. Without UN approval, or without a flagrant provocation by Iraq (such as brutality to or murdering American hostages), for the United States to adopt this option could well be devastating politically both within the United States and internationally. Events now unpredictable or indeed unvisualized could however be the trigger for this option's unfolding.*

A more deliberate, and possibly more acceptable all around, option might be a United Nations coalition under the UN's political and strategic guidance.**

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*An Iraqi attack on Israel, or an Israeli attack on Iraq if Iraq enters Jordan in force, may bring about a situation in which Israel and the United States are military partners against Iraq. What happens then is outside the sphere of this paper, but the consequences are threatening enough to lead to the use of every deterrent device to dissuade Iraq from such recklessness, even to drawing the UN "line in the sand" on Jordan's border with Iraq.

**Note, of February 1991: In light of developments of late November 1990 culminating in the UN Security Council resolution, Secretary Baker in the chair, authorizing UN members to use all necessary means to enforce Iraqi compliance with earlier UN resolutions, this option if considered at all had evidently been rejected as cumbersome, as constraining US freedom of action, and as unachievable with respect to creating a UN Command. Like the rest of Chapter III, the option appears as written in the early November draft.

The scenario leading to such a coalition might go something like this: In, say, late 1990 or early 1991, events lead the five permanent members of the United Nations Security Council to agree that only military action will force Saddam Hussein to withdraw unconditionally from Kuwait. In full view of the world, they debate the issue in the United Nations Security Council. In due time, the Security Council passes a resolution which says that in view of Iraq's continued disregard for previous Security Council resolutions and Iraq's obvious intent to retain its ill-gotten conquest despite world condemnation and economic pressure, the United Nations in the interest of stability and a new world order which will not permit the strong to take over the weak does therefore "call on United Nations member nations, under their own national processes, to combine their efforts and undertake military action to force Iraq's withdrawal from Kuwait." Another UN resolution asks the US President to name the coalition force commander. The objectives of the August UN resolution remain in place. Key Arab nations agree to place their forces under UN command.

In late January 1991, after the new Congress convenes, the President of the United States sends a message to the Senate and the House of Representatives which calls attention to the UN resolutions and requests Congress to pass a resolution of its own committing the United States to support of the UN action. The Congress debates the

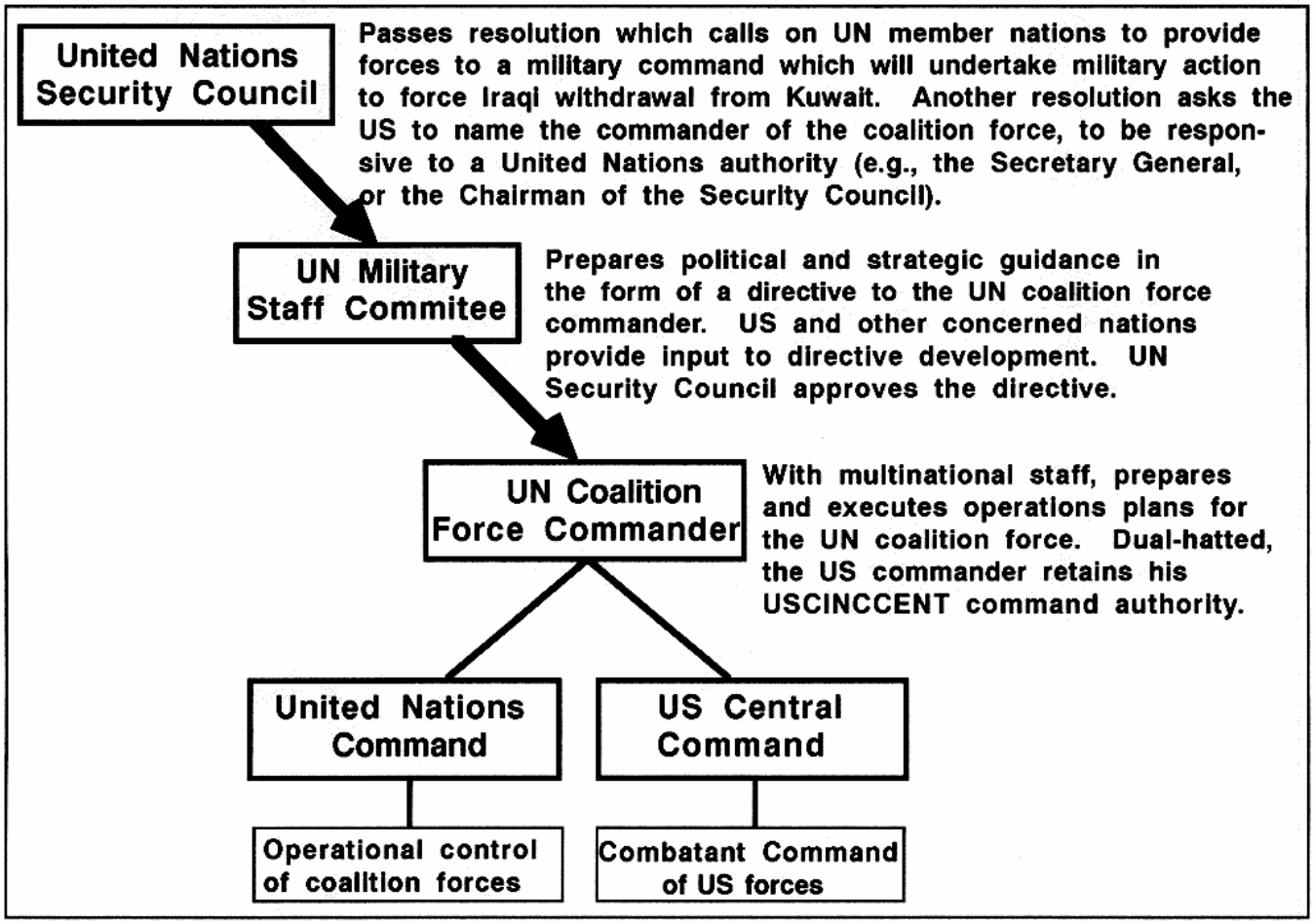

Figure 8. United Nations Direction

issue and passes such a resolution. This is a practical substitute for declaring war on Iraq, which only Congress can do. This done, the UN command is activated. Figure 8.

Moribund for decades but given new life as the five permanent members of the Security Council enjoy post-Cold War harmony, the UN Military Staff Committee then drafts, for Security Council approval, the political/strategic guidance for the UN Mideast Command.*

Its guidance approved, the coalition force then completes its preparation for war. Campaign objectives are established. A decision is made whether the military action is to be primarily air attack with initially only defensive action on land, or whether it is to include a land offensive from the outset. In either case, preparation takes place for the likely duration of the war; a land offensive will require substantial augmentation of the forces deployed at this writing, as well as provision for replacement flow to sustain the casualties of weeks or even months of war. Forces are assembled and task-organized; logistics are made ready; command and control is put in order; final training is completed.

Meanwhile, activity on the diplomatic scene is intense. Ideally, as the Security Council permanent members and the Arab parties in the coalition hold their ground, Saddam Hussein, observing the military preparations, recognizes that the UN coalition is serious, appreciates the gravity of his situation, and somewhere during the process gets the message that the UN ultimatum is an offer he can't refuse. Indeed he sees the situation as familiar; with his role reversed, it is a bind like that in which he placed Kuwait's leaders in late July 1990.

Saddam Hussein thereupon agrees unconditionally to withdraw from Kuwait and, in the status quo ante bellum, to negotiate his pre-invasion disputes with that country. (This may or may not be with the understanding that at the same time other issues of Mideast stability are to be addressed in an international forum.)

If the Iraqi dictator does not do so within an announced period, the coalition force, having given up strategic surprise but retaining operational and tactical surprise, attacks decisively. Or while this scenario is unfolding in an early stage Saddam Hussein may recklessly initiate an attack, bringing catastrophe on himself and his country as the coalition

---

*Chapter VII of the United Nations Charter says that the Security Council "shall determine the existence of any threat to the peace, breach of the peace, or act of aggression and shall... decide what measures shall be taken..." (Article 39); that the Security Council "may decide what measures not involving the use of armed force are to be employed to give effect to its decisions..." (Article 41); and "Should the Security Council consider that measures provided for in Article 41 would be inadequate or have proved to be inadequate, it may take such action by air, sea, or land forces as may be necessary..." (Article 42); and "Plans for the application of armed force shall be made by the Security Council with the assistance of the Military Staff Committee..." (Article 46); and "The Military Staff Committee shall consist of the Chiefs of Staff of the permanent members of the Security Council or their representatives... The Military Staff Committee shall be responsible under the Security Council for the strategic direction of any armed forces placed at the disposal of the Security Council..." (Article 47).

force immediately responds, led by the US, the absence of Congressional approval notwithstanding, and with or without all allies participating in a, possibly loosely knit, ad hoc command arrangement.

* * * * * * *

No matter how war might come to pass, the war's prosecution must, above all, be both well guided and well carried out according to that guidance.

The political/strategic guidance for the coalition force governs the force's strategic/operational/tactical direction. The force faces no easy military task. Its commander deserves clear guidance that reflects the coalition partners' agreed objectives, that is consistent with his force's capabilities, and that tells him what the political/military authorities who provide the guidance want him to do. Given such guidance and assured of its stability, he can then do his part in elaborating to his troops the desired conditions to be achieved and the interlocking campaign purposes and sequencing to achieve those conditions.

Then, when directed by the UN Security Council, the coalition commander -- his force having been organized, trained, and motivated, its command and control ready for operations -- can, at a time and in a manner of his direction, order his force to attack.

Chapter IV. The End Product: Guidance to the Force

The February 1944 directive by the Combined Chiefs of Staff to General Eisenhower, in London preparing for the allied invasion of Europe, is a model of clear instructions to an operational commander. To illustrate the issues to be addressed in political/strategic guidance, it is reproduced below paragraph by paragraph, with, in italics, possible corresponding words for a Mideast commander from a multinational political authority (here visualized as the United Nations Security Council), if indeed there should be a single commander and an authority to guide him. No comment is offered on the lines in italics, although almost every sentence provokes reflection on its implications and on the problems that would arise in its actual drafting.

1. You are hereby designated as Supreme Allied Commander of the forces placed under your orders for operations for liberation of Europe from Germans. Your title will be Supreme Commander Allied Expeditionary Force.

You are hereby designated as Commander-in-Chief of the United Nations forces now being assembled in and near Saudi Arabia responsive to Iraq's invasion of Kuwait. Your title will be Commander in Chief United Nations Mideast Command.

2. Task. You will enter the continent of Europe and, in conjuction with the other United Nations, undertake operations aimed at the heart of Germany and the destruction of her armed forces. The date for entering the Continent is the month of May, 1944. After adequate channel ports have been secured, exploitation will be directed toward securing an area that will facilitate both ground and air operations against the enemy.

Task. When directed by the United Nations Security Council, you will undertake operations aimed at the destruction of Iraqi armed forces and the liberation of Kuwait. In executing this task, you are authorized to conduct air operations throughout Iraq and land operations into Iraq as necessary to recover and defend Kuwait and to destroy such Iraqi forces as immediately threaten Kuwait's territory.

3. Notwithstanding the target date above you will be prepared at any time to take immediate advantage of favorable circumstances, such as withdrawal by the enemy on your front, to effect a reentry into the Continent with such forces as you have available at the time; a general plan for this operation when approved will be furnished for your assistance.

Pending authority to execute the above task you will defend the territory of Saudi Arabia. Should Iraq forces attack into Saudi Arabia you are authorized to conduct defensive air, land, and sea operations, to include hot pursuit over Iraq's territory.

4. Command. You are responsible to the Combined Chiefs of Staff and will exercise command generally in accordance with the diagram at Appendix (omitted here). Direct communication with the United States and British Chiefs of staff is authorized in the interest of facilitating your operations and for arranging necessary logistics.

You are responsible to the United Nations Security Council, reporting through the Military Staff Committee, and will exercise command in accordance with the diagram at Appendix (Note: a detailed chain of command diagram may not be advisable or necessary; if issued it should insure unity of command). Direct communication with national representatives of nations contributing to the United Nations force is authorized in the interest of facilitating your operations and for arranging necessary logistics.

5. Logistics. In the United Kingdom the responsibility for logistics organization, concentration, movement, and supply of forces to meet the requirements of your plan will rest with British Service Ministries so far as British Forces are concerned. So far as United States Forces are concerned, this responsibility will rest with the United States War and Navy Departments. You will be responsible for the coordination of logistical arrangements on the Continent. You will also be responsible for coordinating the requirement`s of British and United States forces under your command.

The responsibility for logistics support of national forces to meet the requirements of your operation will rest with the respective nations; this can include agreements between nations for logistic support. You will be responsible for coordinating the logistic requirements of the forces under your command, for coordinating their logistic activities, and for bringing to the attention of the Military Staff Committee logistic deficiencies which will adversely affect your operations.

6. Coordination of operations of other Forces and Agencies. In preparation for your assault on enemy occupied Europe, Sea and Air Forces agencies of sabotage, subversion, and propaganda, acting under a variety of authorities are now in action. You may recommend any variation in these activities which may seem to you to be desirable.

In furtherance of the United Nations' aim of liberating Kuwait, a coordinated program of special operations is now in action. You may recommend any variation in these activities which may seem to you to be desirable.

7. Relationship to United Nations Forces in other areas. Responsibility will rest with the Combined Chiefs of Staff for supplying information relating to operations of the Forces of the U.S.S.R. for your guidance in timing your operations. It is

understood that the Soviet Forces will launch an offensive at about the same time as OVERLORD with the object of preventing the German forces from transferring from the Eastern to the Western front. The Allied Commander-in-Chief, Mediterranean Theater, will conduct operations designed to assist your operation, including the launching of an attack against the south of France at about the same time as OVERLORD. The scope and timing of his operations will be decided by the Combined Chiefs of Staff. You will establish contact with him and submit to the Combined Chiefs of Staff your views and recommendations regarding operations from the Mediterranean in support of your attack from the United Kingdom. The Combined Chiefs of Staff will place under your command the forces operating in Southern France as soon as you are in a position to assume such command. You will submit timely recommendations compatible with this regard.

It is expected that, when you undertake offensive operations against Iraq, Turkey and Syria will also attack into Iraq. You are authorized direct contact with senior Turkish and Syrian military authorities to provide them with intelligence on Iraqi forces, to suggest the employment of their forces, to coordinate the timing of their operations, and to determine their requirements for air operations by your forces to assist their operations. Your instructions in the event of Iraqi military operations against Israel or Jordan are provided separately.

8. Relationship with Allied Governments -- the re-establishment of Civil Governments and Liberated Allied Territories and the administration of enemy territories. Further instructions will be issued to you on these subjects at a later date.*

Instructions for the re-establishment of civil government in Kuwait and for the administration of Iraqi territories taken by your forces will be issued at a later date.

The guidance to General Eisenhower contained neither rules of engagement nor limits on his forces' operations. The world has changed; something like this may be needed today:

Use of nuclear weapons is not contemplated... Prepare for retaliatory action, both chemical and other, should Iraq use chemical weapons... Taking into account the need for military effectiveness and the avoidance of unnecessary military casualties, make every effort to limit damage to noncombatants, religious structures, and the civil infrastructure of Kuwait and Iraq.

However, even this much might not be enough. In current thinking, "strategic guidance" would include "defining operational conditions to be achieved" and "establishing cam-

* The directive to General Eisenhower appears in Gordon A. Harrison, Cross-Channel Attack, Office of the Chief of Military History, Department of the Army, Washington, 1950, pp. 457-458.

paign purposes and sequencing to achieve these conditions." These may not be self-evident from all the paragraphs in italics above.*

Thus, for example, strategic guidance could add something like this:

> *The aim of (conditions to be achieved by) your air campaign will be to gain immediate air supremacy over the Iraqi air force, and complete freedom of air action.*
>
> *Your land campaign will aim at the destruction of Iraqi forces in Kuwait and the liberation of Kuwait. You are authorized to permit Iraq to make the first offensive move, which, if made, you will decisively defeat, thereupon taking up an offensive which destroys the opposing Iraqi forces and achieves the liberation of Kuwait. You will, however, prepare a land campaign which takes the offensive when directed by the United Nations Security Council, in the event Iraq does not attack on land.*

The signature block could read:

> For the United Nations Security Council,
>
> _____, Chairman

The value of such guidance should be evident, and indeed the process of preparing it would be salutary. One can hope that a draft of something along its lines is in preparation, somewhere, today.

Creating a coalition that through the United Nations Security Council (per Figure 8, page 22) or through a "Council of Nations" (per Figure 7, page 20) or its like could produce guidance like this would not be easy. In the absence of such, however, the commander (or an ad hoc commanders' council of war) would be left to develop guidance for himself (or themselves), or find himself (or themselves) jerked around by ever-changing guidance, or immobilized, denied guidance at a critical juncture, or straying away from acceptable strategy and being forced to change the plan or, worse, executing a bad plan, or otherwise in serious trouble with operations out of step with strategy.

That would be no way to run a war.

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*In 1944, these matters were in the purview of General Eisenhower for his forces (although the Combined Chiefs of Staff did issue directives for the combined bombing campaign in Europe aimed at supporting the OVERLORD invasion.)

Part Two. Operational/Tactical Direction

Part Two addresses operational direction ("orchestrating the fighting divisions, brigades, wings, and other combat groupings and their logistics toward the execution of successful campaigns") and tactical direction ("issuing orders to the units that actually engage the enemy.") The definitions in parentheses are brief; the reader can provide his own without harm and this is not a place for full treatment of the boundaries between levels of warfare.

We start with a primer on theater warfare. Some readers will find this section unduly basic; others may take exception to details of its construct. Its intent is descriptive, not prescriptive; expository, not doctrinal. It aims simply to portray in a few pages the essential nature of theater warfare as it is shaping up in the Middle East, as a step toward understanding some practical aspects of the coalition force's command and control.

Chapter V. A Primer on Theater Warfare

Defining Theater Warfare

Before World War I when the airplane became a weapon in war, there were only two forms of warfare: sea warfare, and land warfare. Fleets and armies occasionally cooperated (Yorktown, 1783; Vicksburg, 1863), but in general the two fought independently.

The airplane changed that. Today there are essentially three forms of warfare: air, sea, and air/land (that some might say "air/ground" instead of air/land, use "maritime" instead of sea, or add space warfare makes no practical difference). The Battle of Britain, 1940, with its opposing British and German air formations and Britain's air defenses, was entirely air warfare. The Battle of the Atlantic, 1942, with Allied air and sea forces desperately seeking to counter the German submarine offensive, was entirely sea warfare. The Battle of Stalingrad, 1943, far from the sea and absent a concurrent Soviet or German independent air effort, was entirely air/land warfare.

Theater warfare comprises all three: air, air/land, and sea warfare (each relying on space-based communications and intelligence systems). Waged in a well-defined theater of operations with its land masses and its contained and adjacent waters, warfare between a Mideast coaliton and Iraq will be theater warfare.

Air (meaning land-based air), land, and naval (including carrier aviation) forces together wage theater warfare. Air forces can engage in each form of warfare (for example, close air support in air/land warfare, and air reconnaissance in sea warfare). Naval 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 (high altitude air defense in air warfare; forcible entry airborne seizure of an advanced fleet base in sea

[maritime] warfare). A fleet's amphibious task force with an Army/Marine landing force supported by land-based and carrier air, an example being the Falklands in 1982 as the US might have done such an operation, is "theater warfare" in microcosm.

Waging Theater Warfare

The theater of war can be small (Panama, 1989), mid-sized (Okinawa and vicinity, 1945, within Nimitz' Pacific Ocean Area theater), or quite large as in the Mideast today. In a sizeable theater, the skilled and experienced theater commander will wage warfare at his level by planning and executing campaigns -- each campaign consisting of a series of military operations (such as movements and battles) aimed at accomplishing a common objective, normally within a given time and space. Battles can in turn be thought of as series of engagements*.

One theater campaign will almost always be the air campaign. Another might be the theater naval campaign. There may be one or more theater air/land campaigns.

Figure 9, next page, attempts to portray on one page the waging of theater warfare in a theater of the size now building in the Mideast. Although it uses US terminology, Figure 9 applies to an integrated multinational force as well.

At the top is the Commander-in-Chief, the CINC; he has both the means and the mission. (He never own all the means, however. In US parlance, he would be the "supported CINC" and CINCs of other commands, like the US Transportation Command and US Space Command, would support him according to their instructions from the Secretary of Defense through the Chairman, Joint Chiefs of Staff.)

Under the CINC, a single air authority would direct (or coordinate) the air campaign and its battles. This air campaign includes offensive counter air (OCA) aimed at destroying the enemy's air force and its sources of power and command and control. It includes defensive counter air (DCA), which in turn includes high and medium altitude air defense missiles, aimed at protecting the theater force from air attack. And it includes deep air interdiction (AI) -- the attack of targets which are beyond the zone of direct concern to land formation commanders yet which influence the enemy's ability to bring forces forward.

US joint doctrine contemplates such a single air authority, he is called the joint force air component commander (JFACC). The official definition** reads...

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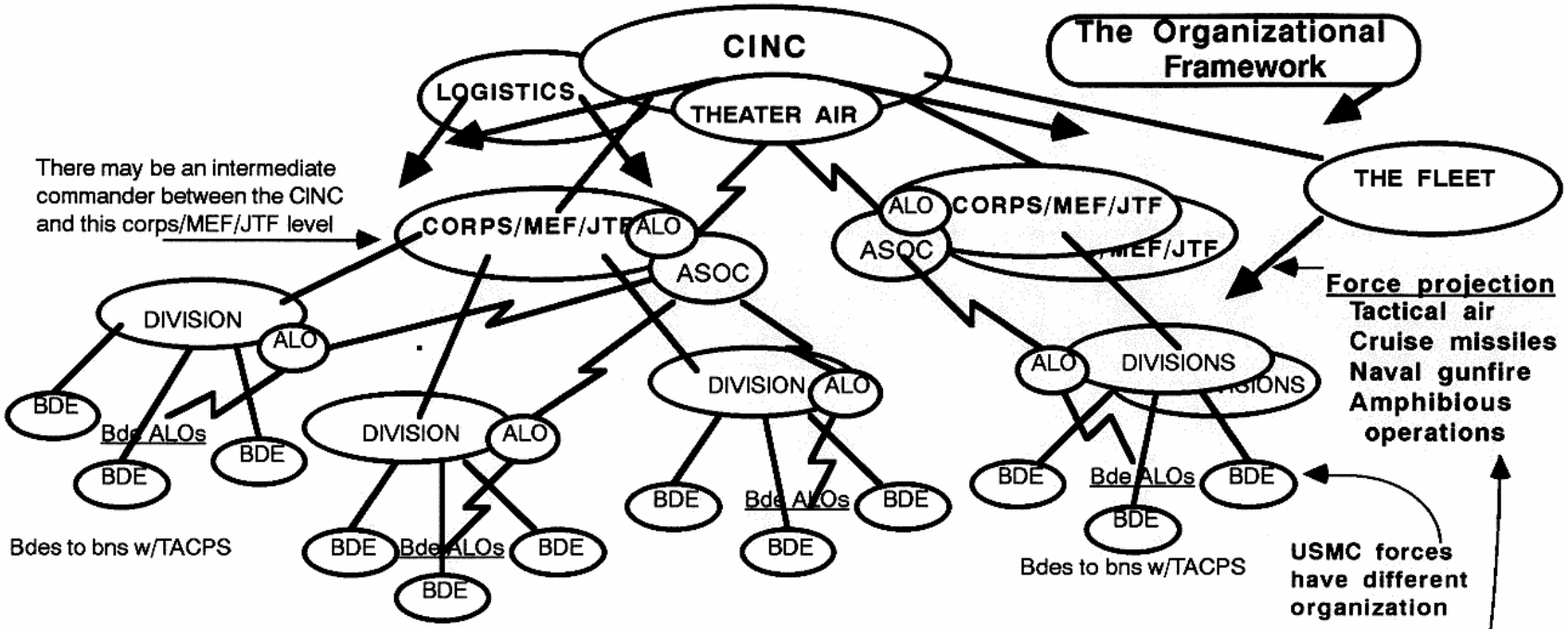
*Joint terminology and the prescriptive language of joint doctrine abound in this subject matter. Again, the intent is to be descriptive rather than prescriptive -- that is, to be expository within the limits of such writings but not to be bound by them, nor to bind others to this construct.

**Office of the Chairman, JCS, Joint Pub 1-02, Department of Defense Dictionary of Military and Associated Terms, 1 December 1989, p. 197.



Air Campaign/Battles

OCA
DCA (incl air def)
Deep interdiction, less deep battle

Air/Land Operations

Deep

Air attack (BAI)
Arty attack
Abn, aaslt, SOF attack

Close

Maneuver & close combat
Indirect fire
Atk hcptr
CAS
Local air def
Obstacles & obst clearing
Amphib asslt

Rear

LOC maint
Installation defense
Close battle as nec
Local air def

Fleet operations

Antiair warfare
Antisurface warfare
Antisub warfare
Mine warfare
Force projection

The Operational Framework

Each of these is inherent in each of the five above, and each is the responsibility of each level of command)

Intelligence Effort

Tasking collectors of all kinds from eyeballs to high-tech
Correlating, interpreting, and sharing their reports
Arriving at judgments

Admin/Logistics Effort

Supplying fuel, food, water, ammunition, medical items, repair parts, etc; maintaining; moving; servicing; caring for casualties; strength actng & replacements

C2/C2CM Effort

Installing and maintaining our own communications; countering the enemy's attack of our C2; and attacking the enemy's comms with means available.

Figure 9. Waging Theater Warfare

joint force air component commander -- The joint force air component commander derives his authority from the joint force commander who has the authority to exercise operational control, assign missions, direct coordination among his subordinate commanders, and redirect and organize his forces to ensure unity of effort in the accomplishment of his overall mission. The joint force commander will normally designate a joint force air component commander. The joint force air component commander's responsibilities will be assigned by the joint force commander (normally these would include, but not be limited to, planning, coordination, allocation and tasking based on the joint force commander's apportionment decision). Using the joint force commander's guidance and authority, and in coordination with other service component commanders and other assigned or supporting commanders, the joint force air component commander will recommend to the joint force commander apportionment of air sorties to various missions and geographic areas. [Added by Joint Pub 3-0.2.1, Test: Based on the joint force commander's guidance, the JFACC will be assigned the responsibility to plan and conduct overall air operations.]

One or more formation commanders (shown here at the levels of corps, Marine Expeditionary Force, or joint task force) would plan and execute air/land operations. The US Army's construct is that air/land battle consists of deep, close, and rear operations, with deep operations including tactical air's "battlefield air interdiction" or BAI. Figure 9 lists the respective components of deep, close, and rear operations.

A single naval commander (commanding "the fleet" in Figure 9) would plan and execute the naval campaign or campaigns. He will direct fleet operations, including those force projection operations whose execution would come under the jurisdiction of the tactical air authority for OCA, DCA, and deep air and cruise missile attack of land targets, and those which, like naval gunfire, actually join the air/land battle.

Figure 9 shows an oval labelled "logistics." Options for theater-level organization of logistics are many, ranging from a single authority responsive to a double-hatted commander (Eisenhower enjoyed this in 1944, when he commanded not only the Allied Expeditionary Force but US Army Forces European Theater, with its huge logistical machinery), to the present situation in NATO, where logistics is a "national responsibility," coordination is loose, and the system could well have broken down if tested in war.

Logistics of course permeates the full force, down to its last battalions, squadrons, and naval combatants. So do the functions of intelligence and C2/C2CM (command and control/command and control countermeasures). Figure 9 describes these three as "efforts," each of which is inherent in air, air/land, and naval operations and each of which is the responsibility of formation commanders at each level of command.

Waging Air/Land Warfare

Command and control is both complex and crucial throughout the structure of Figure 9 -- in tactical air, fleet operations, logistics, and the rest. But command and control has special complexity in the conduct of air/land operations; these deserve a closer look.

Air/land warfare's close battle includes close combat, indirect fire, close air support, attack helicopter movement and fires, forward area air defense, close-in intelligence, obstacles and their clearance, and movement/maneuver. Its deep battle includes deeper intelligence, battlefield air interdiction, distant strikes of artillery and attack helicopters, and far ranging maneuver of airborne, airmobile, and special operations forces. Its rear battle includes the defense and security of the rear areas. Its "basic tenets" are "agility, initiative, depth, and synchronization."*

It is instructive to examine the fairly self-contained air/land fighting formations of the US Marine Corps. In USMC doctrine and current practice, the basic formation is the MAGTF (Marine Air-Ground Task Force). Task-organized to suit the force's mission, a MAGTF always consists of command, aviation combat, ground combat, and combat service support elements (including Navy support elements).

The largest MAGTF laid out in current USMC doctrine is a Marine Expeditionary Force (MEF), commanded by a lieutenant general and consisting of: a command element with C2 capabilities and a surveillance, reconnaissance, and intelligence group; a ground combat element consisting of all or part of a Marine division; an air combat element of rotary and fixed wing squadrons and detachments of various types, low and medium altitude air defense units, and air command and control units; and a combat service support element consisting of a force service support group which can sustain lengthy operations ashore.

The smallest doctrinal MAGTF is a Marine Expeditionary Unit, with a ground combat element of battalion size and with air combat (helicopters, and possibly Harriers) and combat service support elements.

To illustrate the MAGTF type of air/land formation, consider the Marine Expeditionary Brigade (MEB). A fictional version, "full-up," is shown at Figure 10, next page.

Marine Corps forces moved to Desert Shield as Marine Expeditionary Brigades. On arrival they were repackaged -- the USMC word is "composited" -- into formations more suitable for the situation at hand. One requirement was to maintain on the scene a

*For a full treatment of this subject, see US Army Field Manual 100-5, Operations, May 1986, and USMC Fleet Marine Force Manual 1, Warfighting, March 1989. These two basic Service manuals have much in common.

8th Marine Expeditionary Brigade
Command Element (C2; intel; recce)

8 MEB GCE (17th RLT)	8 MEB ACE (MAG-35)	8 MEB CSSE (BSSG-8)
17th Marines (Rein)	VMA-29 (20 AV-8B)	Det, 5 Supply Bn
1-17 Mar Inf Bn	VMFAs-31 & 33 (12 F/A-18 ea)	Det, 5 Maint Bn
2-17 Mar Inf Bn	VMA-35 (AW) (10 F/A-18D)	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; 4 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 (12 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 Constr Bn Force
A Co, 5 Cbt Engr Bn	HML-43 (12 UH-1)	8th Mobile NC Bn
	Det HMH (8 CH-53)	
	A Btry (rein), 23 LAAD Bn (Stgr)	
	A Btry (rein), 25 LAAM Bn (Hawk)	
	Dets/Units for MAG Control	

Figure 10. Marine Expeditionary Brigade*

capability for amphibious operations; this called for a MEB along the lines of that in Figure 10 to be afloat in amphibious shipping (except that the MEB's fixed wing air flew into bases ashore; there it is organized under the 3d Marine Aircraft Wing). The other two MEBs have evidently been "composited" into a single division-level Marine Expeditionary Force ashore, its ground combat element consisting of two-thirds of a Marine division (that is, minus the regimental landing team ground combat element of the MEB afloat).

Marine Corps forces are especially organized, trained, and equipped for amphibious operations and could well be so used in Desert Shield. In modern amphibious operations, the assault begins from over the horizon. Heliborne troops launched from amphibious carriers seize initial objectives reconnoitered in advance by Navy SEAL or force reconnaissance teams. Assault troops are rapidly reinforced by LCAC-borne tanks and other heavy materiel. (LCACs, 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.

*Explanations for abbreviations and acronyms can be found in Annex 3.

An amphibious MEB seems to be listed in Annex 1's reinforcements. Force repackaging or arrival could create a second MEB afloat; the amphibious force might then become a small division-level MEF of its own. Or the full USMC force could become an almost two-division MEF, its air combat element being by that time a sizetable tactical air force and its combat service support element resembling that of a stripped-down Army corps.

Annex 1 describes a "maritime prepositioning package" in the reinforcement. This is an MPF (for maritime prepositioning force) MEB. An MPF MEB is not embarked on amphibious ships; it moves by airlift and sealift to link up with its equipment which has been loaded (prepositioned) on special cargo vessels which then meet the troops in the area of operations. No assault is visualized, only movement. The MPF MEB is slightly larger than an amphibious MEB, being heavier in armor and mechanized troops.

Now let's consider a very different air/land fighting formation: the US Army's one-of-a-kind air assault division as reinforced by corps troops and supported by USAF or other tactical air. This division-level force relies primarily on helicopter-borne air maneuver and firepower for its combat effect and largely for its logistics. Figure 11.

47th Air Assault Division (Reinforced)

1st Brigade	47th Aviation Brigade	47th Division Support Cmd
1-182 Infantry Bn	1-30 Cavalry Squadron	47 Aviation Maint Bn
1-183 Infantry Bn	160 Aslt Hel Bn (UH-60)	47 Maintenance Bn
1-184 Infantry Bn	161 Aslt Hel Bn (UH-60)	47 Supply &Trans Bn
2d Brigade	162 Aslt Hel Bn (UH-60)	47 Medical Bn
1-185 Infantry Bn	163 Med Hel Bn (CH-47)	1-433 Air Defense Arty Bn
1-186 Infantry Bn	165 Atk Hel Bn (AH-64)	47th Engineer Bn
1-187 Infantry Bn	166 Atk Hel Bn (AH-64)	47th Signal Bn
3d Brigade	167 Atk Hel Bn (AH-64)	47th Military Intelligence Bn
1-188 Infantry Bn	168 Atk Hel Bn (AH-64)	47th Chemical Co
1-189 Infantry Bn		47th Military Police Co
1-190 Infantry Bn		Div Hqs and Hqs Co
47th Division Artillery	From 21st Abn Corps:	
1-61 Field Arty Bn	2-661 FA/MLRS (Opcon)	From 10th Air Force:
1-62 Field Arty Bn	2-461 ADA Bn (Hawk) (GS)	65 Tactical Air Control
1-63 Field Arty Bn	121 Med Hel Bn (DS)	System personnel with
5-16 Field Arty Bn	538 Engr Bn (Abn) (Atch)	31 comms vehicles

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Figure 11. A US Army Air Assault Division (Reinforced)*

*This fictional organization and the fictional 8th MEB on the preceding page are adapted from instruction presented by the author at the School of Advanced Military Studies, US Army Command and General Staff College, Dec 1989. They are not intended to portray forces of Desert Shield, although Desert Shield forces do include both MEBs and the 101st Airborne Division (Air Assault).

Note the similarities among the names of the fighting and logistical units of Figures 10 and 11. Note also, in Figure 11, the absence of organic fixed-wing air such as that of Figure 10; this type of tactical air support comes to US Army fighting formations through the USAF tactical air liaison system represented by the personnel and their equipment named at the lower right of Figure 11.

A US Army armored or mechanized infantry division looks quite different. Its three brigades each combine tank and mechanized infantry battalions, its artillery is self-propelled and heavier, and its aviation brigade is considerably smaller. However, the "division base" of combat service support, engineers, air defense, signal, and so on resembles that of the air assault division, as does the system for tactical air support.

Although its terminology is different, the British 7th Armoured Brigade, now part of Desert Shield, reflects such an armored/mechanized force composition, albeit of brigade size. The brigade's two armored regiments (in US terms, battalions) are the Royal Scots Dragoon Guards and the Queens Royal Irish Hussars, each with 57 Challenger main battle tanks. Its mechanized infantry is the 1st Battalion The Staffordshire Regiment, mounted in 45 Warrior armored infantry fighting vehicles. Its artillery regiment (again, US battalion) is the 40 Field Regiment Royal Artillery, with 24 self-propelled 155mm howitzers. The brigade also includes an air defense battery with 36 Javelin low-level air defense missiles, a reconnaissance squadron (US troop, or company, size), antitank helicopters in the 664 Squadron Army Air Corps, an engineer squadron (US company) of 25 Engineer Regiment, a field ambulance unit, and an ordnance company.*

British Army forces have the equivalent of US tactical air control parties (TACPs) with their maneuver units. The 7th Armoured Brigade would presumably receive tactical air support from USAF and USMC air, as well as from the RAF squadrons in country.

Egypt is said to have committed its 3d Mechanized Division and its 4th Armored Division to the force in Saudi Arabia.** These are reported to include, respectively, two armored/one mech, and one armored/two mech, brigades.*** These divisions can be assumed to have roughly the same distribution of artillery, engineers, signal, and the like as do similar American (or Soviet) formations. For effective tactical air support, the Egyptian division would need the equivalent of TACPs.

In every sizeable army, whatever the nation, there is above the division a warfighting echelon known as the corps (the Soviets use the term "combined arms army"). The corps consists of divisions and other maneuver units (such as separate brigades and regiments) and "corps troops." The following (partial) composition of a corps, Figure 12 next page, is illustrative:

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*Army Times, October 22, 1990, p. 15. **Army Times, October 22, 1990, p. 14

***The Military Balance, 1990-1991, The International Institute for Strategic Studies, London, p.102.

47th Air Assault Division	61st Field Artillery Brigade	21st Corps Support Cmd
52d Infantry Division (Mech)	10th Air Defense Brigade	83d Medical Group
102d Airborne Division	51st Engineer Brigade	16th & 17th Support Gps
230th Separate Armor Brigade	21st Military Intel Brigade	70th Medium Truck Group
201st Armored Cavalry Regt	70th Signal Brigade	33d POL Supply Battalion
21st Aviation Brigade	91st Military Police Bn	56th Ammunition Battalion
		1077th Replacement Bn

Figure 12. Typical (Partial) Composition of a Corps*

The Systems Approach

This lengthy description of the variety of force makeup is a prelude to the "systems approach." The systems approach is a way to look at the waging of theater warfare when forces of mixed origin and composition engage in a common fight.

The idea behind the "systems approach" is that the elemental forces which fight theater (air/land/sea) warfare can be viewed independently of the uniform their members wear and of the Service or nation that generate the forces; they can be seen by commanders on the ground as "systems." Thus tactical air is a "system;" the systems approach says that it should not matter to a maneuver unit commander in battle if his close air support is delivered by USAF, USN, USMC, or Egyptian fighters, as long as the CAS is quick to respond, on time, and delivers the right ordnance on the right target. Air defense is a system -- a USMC, a US Army, and a Saudi Hawk battery are pretty much the same; the force commander cares not which shoots down an enemy fighter, as long as the fighter is quickly shot down.

Indeed, a USMC infantry battalion and an Army air assault or other infantry battalion can be seen as ground-gaining and ground-holding, close combat, "maneuver systems" -- not always interchangeable because their equipment, hence capabilities, may markedly differ, but functionally alike and amenable to placing under common command.**

*This corps composition is adapted from instruction presented by the author at the School of Advanced Military Studies, US Army Command and General Staff College, Dec 1989. It is not intended to portray forces of Desert Shield.

**To illustrate with a personal example -- in February 1968, during the NVA Tet offensive, the 2/501 Infantry Battalion, normally part of the 101st Airborne Division's 2d Brigade which I commanded, entered Hue from the north, opcon to the 3d Brigade of the 1st Cavalry Division, while Marine battalions were entering from the south; later, when the 2d Brigade took over a sector south of Hue, our 1/501 Infantry Battalion replaced a Marine battalion in sector. These are normal battle actions.

The key units of air/land warfare are these maneuver battalions -- cavalry units call them squadrons (as fighter pilots also call their combat units, but let's set that aside) -- with their companies (or cavalry troops) and their platoons, squads, and sections on the ground. They can be dismounted infantry (entering the fight by parachute, helicopter, or ground vehicle); they can be mounted (mechanized infantry in fighting vehicles, or tank units, or mixed tank/mech formations, or reconnaissance and screening forces). However they may be equipped and organized, the essential characteristic of these units is their ability to maneuver, to close with an enemy and destroy him with assault and direct (and indirect) fire, to take and hold terrain, and to defend ground including built-up areas.

All other forces in air/land battle exist to support, to reinforce the capabilities of, to sustain the fight of, to provide intelligence to, and to direct the actions of these maneuver units.

Now, a soldier is not going to go out and fight and die for a "system." Commanders lead, not "systems" but fighting units. Marines, with just pride, put together air/ground battle formations of high quality; it is an article of faith that one does not break these formations apart (even though this has happened in wars past, and could well happen again). But "systems thinking" can help a commander of multiservice/multinational forces put together his plan and improve his command and control system.

Systems thinking is "command-oriented," rather than "Service-oriented." Command-oriented thought sees forces in all their variety as tools for mission accomplishment; it is holistic in its view rather than partitioned; and it looks at function and logic rather than at received organization and doctrine. Command-oriented thought believes that forces are there to be used where and how they will best serve the command's mission. Indeed, this is how single-Service formation commanders in the field uniformly deal with matters of organization and operation.

Systems thinking is not offered as "doctrine" -- nor to affect Service roles and missions, which are the functions for which the Services build forces. It is offered simply as an objective way for field commanders to look at those forces' employment in war.

Figure 13, next page, shows one version of the air/land battle's "systems." The dotted-line "web" represents the system of command, control, and communications which ties all systems together, responsive to the commander. "Maneuver" is highlighted; the maneuver scheme drives the employment of all the others (called "collateral systems" by the Army)*.

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*This chart is illustrative, not definitive; it shows eight segments only because that is easier to draw. Readers can devise their own; joint and Service thinking can differ (the US Army's seven "battlefield operating systems" distribute "tactical air" among them, for example). Some "systems" are not easy to slot; Marines may see antitank helicopters as tactical air; Army commanders may call them maneuver even though they do not hold ground.

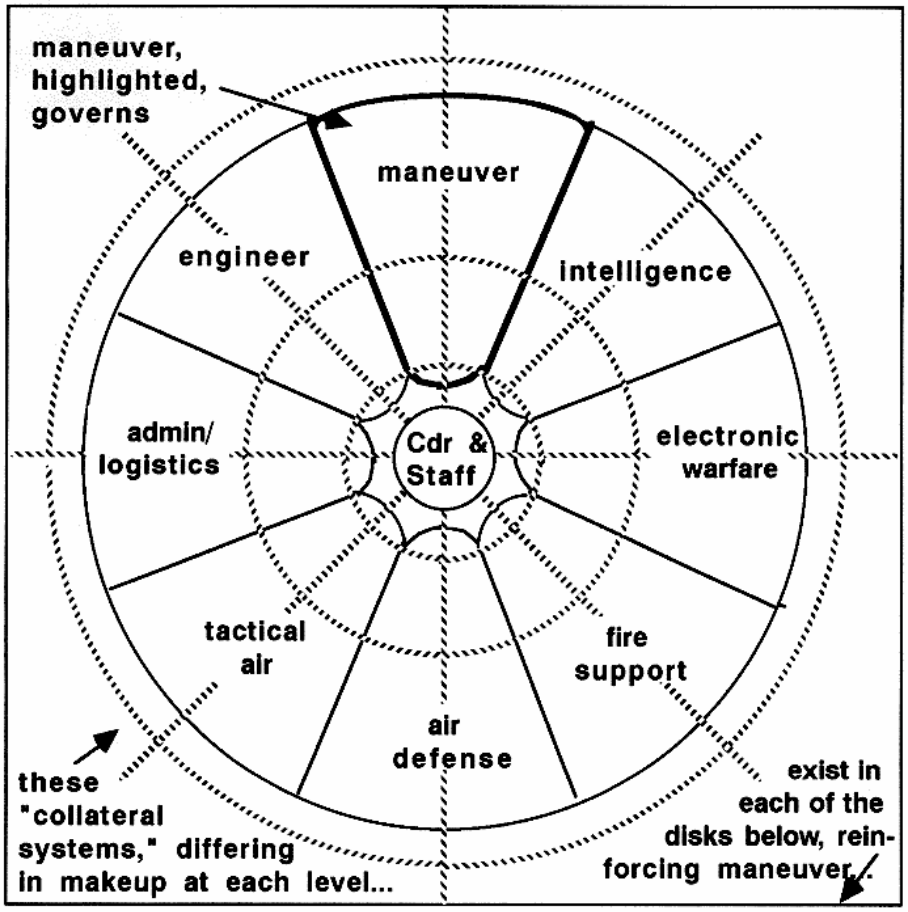

Figure 13. A Version of "Systems of Air/Land Battle"

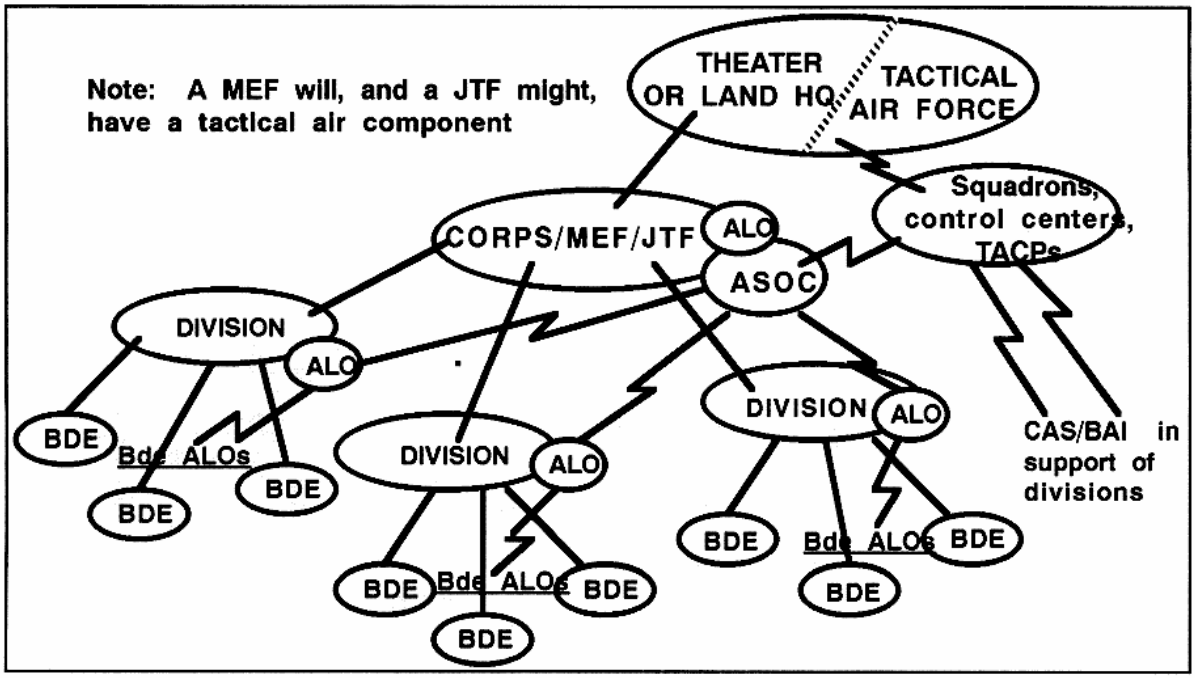

Figure 14. The Maneuver Backbone of an Air/Land Force

Figure 14 on page 39 reflects the idea that maneuver governs. Solid lines connect the corps/division/brigade maneuver units of the air/land warfighting structure; direction goes down these lines and reporting goes up. The oval disks at each level of maneuver unit represent the systems of Figure 13. Of course, maneuver takes place at battalion/squadron down to the individual soldier; this picture takes the maneuver chain only to brigade (read regiment in USMC formations), which is, generally speaking, where the maneuver unit commander begins to pull together in earnest the combined arms battle. No two levels have the same collateral system makeup; structures and linkages differ level by level.*

Lines of direction/coordination go down, and information exchange goes up and down, through the echelons in each of the "collateral" systems. Command and control of air/land warfare is therefore "matrix management" of the highest order. (Battle leaders, excuse the expression; it is meant to convey that long before matrix management became a business buzzword, air/land commanders were practicing it by orchestrating war's many systems in support of maneuver in preparing for and waging war.)

The maneuver commander by no means commands all the collateral capabilities that assist him; he may command few of them. An Army or Marine Corps company commander knows this well; artillery under separate command, for example, through liaison channels delivers the fire support so essential to his success. As captains become colonels and generals commanding ever larger formations, they experience the same relationship in the widening array of "systems" -- intelligence, electronic warfare, air defense, tactical air, and so on -- each directed or coordinated by other authorities whom they do not command but on whom they rely for vital help in mission accomplishment.

We treat this subject of maneuvering forces and their collateral systems at some length because the American taxpayer has placed these collateral means (intelligence, electronic warfare, artillery, tactical air, and so on) in US forces at considerable expense. Yet only if properly employed can these means truly magnify the fighting power of field formations in battle -- and in so doing save lives among the combat maneuver units who directly engage the enemy, and also shorten the war. Efficient application of these collateral means is especially vital if they are in short supply.

An important tool for pulling all this together is the commander's concept of operation, or the force's "nested concepts of operation" portrayed in Figure 15, next page.

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*Figure 14's generic sketch attempts to convey both Army/Air Force and Marine Corps ways of fighting, each of which is air/land in nature, along with that of a notional joint task force of corps size. The terminology (ALO for air liaison officer, ASOC for air support operations center, TACP for tactical air control party) is Army/Air Force.

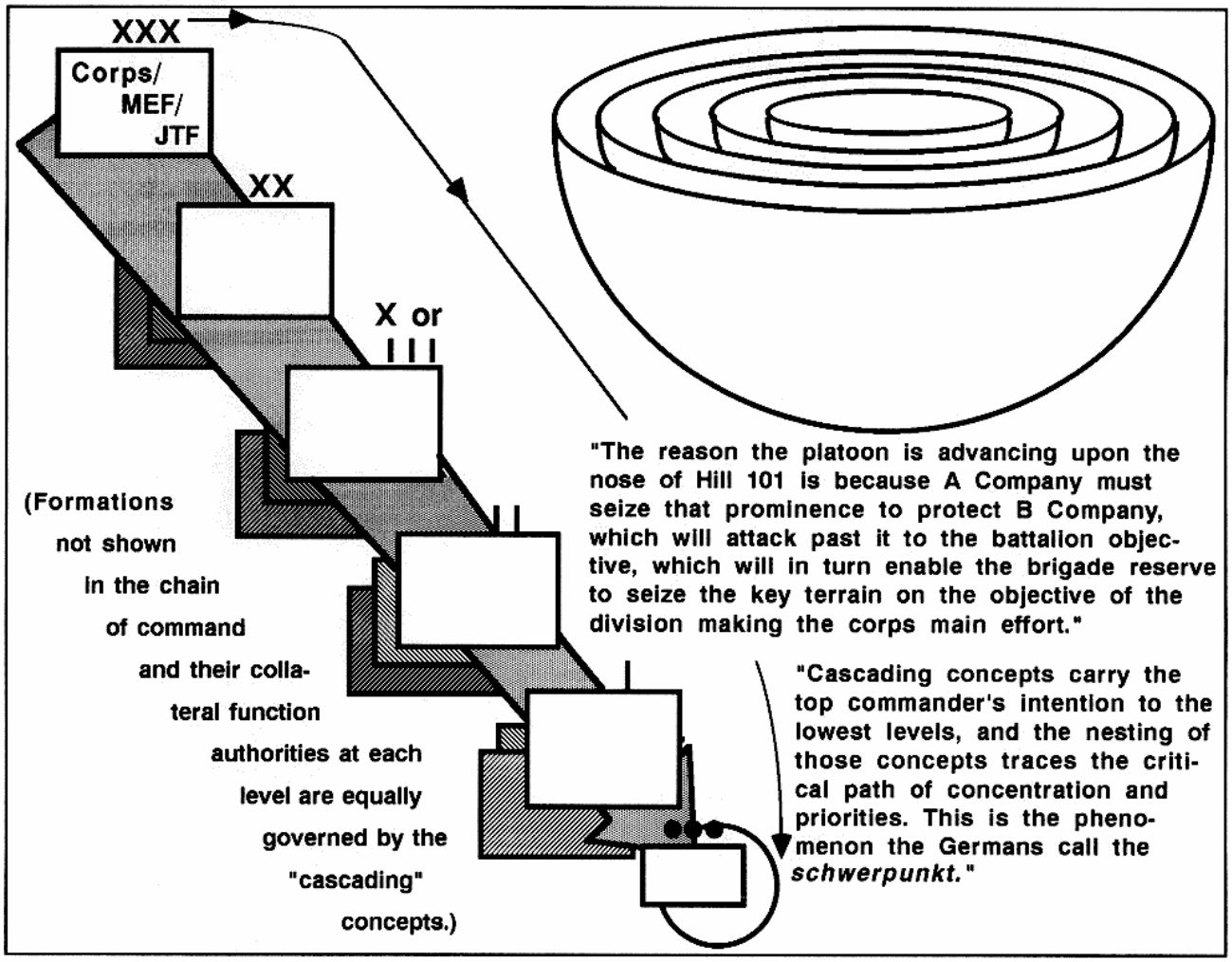

Figure 15. Nested Concepts of Operation*

*Figure 15 interprets ideas from "Concepts of Operation: Heart of Command, Tool of Doctrine" by General William E. DePuy, US Army, Retired, in Army, August 1988, and quotes two of its paragraphs. General DePuy's masterful treatment of the sychronization of collateral systems with maneuver in warfare should be read in its entirety.

Chapter VI. Some Fundamentals of Theater Warfare

The Skill Dimension of War

Warfare is a deadly duel, a contest between opposing forces, each with its own means, each with its own minds, each set of minds under some degree of common intent, and each set of minds bent on thwarting the other, on destroying or neutralizing the forces of the other, on placing its forces in a position which renders forces of the other weaker or entirely powerless in comparison.

The relative skill of the opponents in the conduct of war is thus a determining, even decisive, factor in war's outcomes. In the Mideast situation the utmost in skill -- namely, "battle mastery" -- is demanded. The reasons should be self-evident; skill gets the job done rapidly, and skill saves lives.

Success in warfare at the fighting levels stems from something like this...

- o Well led and well equipped battalions, squadrons, naval combatants, and other units, made up of disciplined, motivated individuals trained as teams and qualified in their weaponry.
- o A strong and able chain of command
- o Commanders' sure hands on their forces, and sure grasp of the battle dynamics
- o Commanders' ability to "...cut to the heart of the situation, recognize its decisive elements, and base his course of action on these..."*
- o Teamwork among these fighting commanders and the matrixed system authorities who augment their fighting capabilities, and with their logistic support
- o Commanders' and troops' fighting hearts: their driving personal commitment to excel against a foe

The objective is to possess this kind of skill when fighting begins, at the time of the all-important "first battle." Then, learning from battle experience, troops who enter the fight well endowed with these qualities can quickly dominate the battlefield.

Critical to battle mastery is superior operational and tactical command and control, with its enlightened human and technological dimensions that in combination bestow upon commanders the ability to see the situation before them, to decide rightly what do do about it, and through an organization for combat to get it done.

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*George C. Marshall, Infantry in Battle, (Washington, The Infantry Journal, Inc, 2d Ed,1939) p 1.

War Is a Phenomenon of Details that Must Go Right

War is a violent social and technological phenomenon in which the details often mean everything and humans are supposed to get the details right. Some examples of doing it right, using fictitious units, from three hours of war:

- By 1642 on 20 February, Task Force 1-76 (a tank-mechanized infantry task force built around the 1-76 Tank Battalion) of the 1st Brigade, 10th Armored Division, had, with the rest of the 1st Brigade successfully attacked the exposed flank of 6th Republican Guard Tank Division, and, taking advantage of surprise and the terrain, had in a two hour running fight rolled up that enemy division inflicting heavy losses and stopping the offensive of the 22nd Iraqi Combined Arms Army. It was now time to refuel; the refueling tankers were right there.

- At 1705 on that same day, the 10th Armored Division's 2/99 Field Artillery Battalion (155mm Howitzer, Self-Propelled) fired its final mission from one position and began displacing to a new position five miles forward. Meanwhile, two Iraqi MIG-19s, having avoided US fighters, were headed toward the zone of the 14th Marine Expeditionary Brigade on the 10th Armored Division's right, at low level; in four minutes, passing through the 14th MEB, the flight would reach the 2/99th, on the move. An AWACS overhead alerted the TSQ-73 Missileminder of the 1/15th Air Defense Artillery Battalion (Corps) and the TAOC (tactical air operations center) of the MEB's Marine Aviation Group 35 alongside. The 1/l5th alerted the 10th Armored Division's air defense battalion's ABMOC (air battle management operations center), which passed the word to Stinger teams of the 1/76th Tank Battalion, now refueling. MAG-35's TAOC alerted its Hawk and Stinger batteries. A 14th MEB Stinger shot down one MIG, a 1/76th Tank Battalion Stinger shot down the other, and the 2/99th Artillery continued to march.

- At 1840 that day, Captain Bill McGee, fighter pilot of the USAF 11th Tactical Fighter Squadron (A-10), took off from Airbase Ten in an A-10, call sign Colt 22, carrying four Maverick missiles and a full load of cannon ammunition. He was flight lead of a flight of three A-10s. He had been directed to contact Saber 95, the TACP with the 8th Egyptian Armored Divison. At 1218 an AWACS overhead diverted his mission to TACP Dandy 29 with Task Force 1-76 which, having refueled, was in heavy contact and had requested emergency CAS. Iraqi jamming notwithstanding, McGee reached Dandy 29, received the target briefing enroute, identified the front lines according to its green smoke, and his flight delivered its ordnance on target.

- Carrier-based F/A-18s in deep strike from Red Sea refuel from USAF KC-10, recover at forward airbase in Qatar, receive new emergency mission, rearm, refuel, launch again on battlefield air interdiction, and recover to their carrier after dark...

- o High-tech theater intelligence picks up change in movement direction of Iraqi reserve force, quickly assesses, passes assessment directly to the 52d Infantry Division (Mech) and the 8th MEB in contact, who then adjust their common plan for that force's entrapment. Carrier-based F/A-18s join A-10s and USMC Harriers in supporting the entrapment, laying waste the enemy...

Getting it right in actions like these demands superlative command and control, top to bottom, theater-wide. It also takes practice, so that the troops "enter combat as veterans." Fighting forces need tools through which they can learn from the experience of war without going to war. See Chapter X, Training the Force, and Options.

War is the Domain of Friction and Uncertainty

Things do not always go right; Clausewitz:

> Everything in war is very simple, but the simplest thing is difficult. The difficulties accumulate and end by producing a kind of friction that is inconceivable unless one has experienced war.... Friction is the only concept that more or less corresponds to the factors that distinguish real war from war on paper.... None of (the military machine`s) components is of one piece: each part is composed of individuals, every one of whom retains his potential of friction (and) the least important of whom may change to delay things or somehow make them go wrong...*

Clausewitz had observed the "friction" of the Napoleonic Wars -- late information, inaccurate information, orders issued on wrong information, orders not understood, orders not carried out, orders carried out but not at the right time.

Today`s theater warfare is fought with far different staff work and communications than was available in Clausewitz` time. Immeasurably more fast moving and technically complex, it remains the domain of late information, inaccurate information, orders issued on wrong information, orders not understood, orders not carried out, orders carried out but not at the right time -- all to the frustration of command.

Uncertainty is both a result of, and a contributor to, friction.

If only commanders could see on a map just the way the enemy lies out there on the ground, and then see inside the enemy's head the action he intends. But this kind of knowledge is not given in war. Commanders must mount the most insightful and determined collection efforts, and the most astute analysis and interpretation, to achieve any-

*Carl von Clausewitz, On War, edited and translated by Michael Howard and Peter Paret (Princeton, Princeton University Press, 1984) p. 119.

thing resembling this kind of knowledge. This would be so even if the enemy did not try to keep us from knowing his situation and moves. It is made ever more difficult when he is skilled in concealment, in denying us his message traffic, and in deception. Reporting and transmission delays can render uncertain the locations and status of a higher commander's own units. Reduction of the uncertainties of the battlefield is the one of the commander`s most pressing requirements for his command and control system.

Command in Coalition War

The idea of command is as old as the idea of military forces. Its basic concept was stated by the Roman centurion to Christ at Capharnaum:

> For I too am a man subject to authority, and have soldiers subject to me; and I say to one, "Go," and he goes; and I say to another, "Come," and he comes; and to my servant, "Do this," and he does it. (Matthew VIII: 8,9)

Command thus embodies the authority to issue orders and the right to expect that orders will be obeyed. In war, disciplined obedience is essential. With military command thus comes awesome authority to punish disobedience. From the Manual for Courts-Martial:

> Article 90--...willfully disobeying a superior commissioned officer... ...Any person subject to this chapter who...
>
> > (2) willfully disobeys a lawful command of his superior commissioned officer; shall be punished, if the offense is committed in time of war, by death or such other punishment as a court-martial shall direct...*

Like the Roman centurion, the commander of a US Army or US Marine Corps division, or of any single-Service formation today, has full command. From JCS Pub 1-02:

> full command -- (NATO) The military authority and responsibility of a superior officer to issue orders to subordinates. It covers every aspect of military operations and administration and exists only within national Services. (emphasis added**)

But, while at multiservice and multinational levels the words "command" and "commander" retain their noble ring, the truth is that commanders of such formations have, not full command but "operational control" ("opcon"), which can often amount to a good deal less, even though some sentences of opcon as defined in US usage read quite well:

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*Manual for Courts-Martial, United States, 1984 , Article 90(a)

**It is not happenstance that court-martial authority, like most meaningful sanctions on poor battle performance (e.g., reputation, future assignments), almost uniformly flows through Service command channels (and of course does not exist at all outside national channels). Worthy of note, the Congress made a specific exception to this in Goldwater-Nichols, 1986, when it gave a combatant command CINC court-martial authority over the all-Service subordinates assigned to his command. See page 48.

operational control -- (DOD) Operational control... is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, designating objectives, and giving authoritative direction necessary to accomplish the mission. (It) includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command... (It) 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.*

As practiced in multiservice and multinational commands, opcon has varying degrees of real authority, some of which can be substantially less than full command. Figure 16.

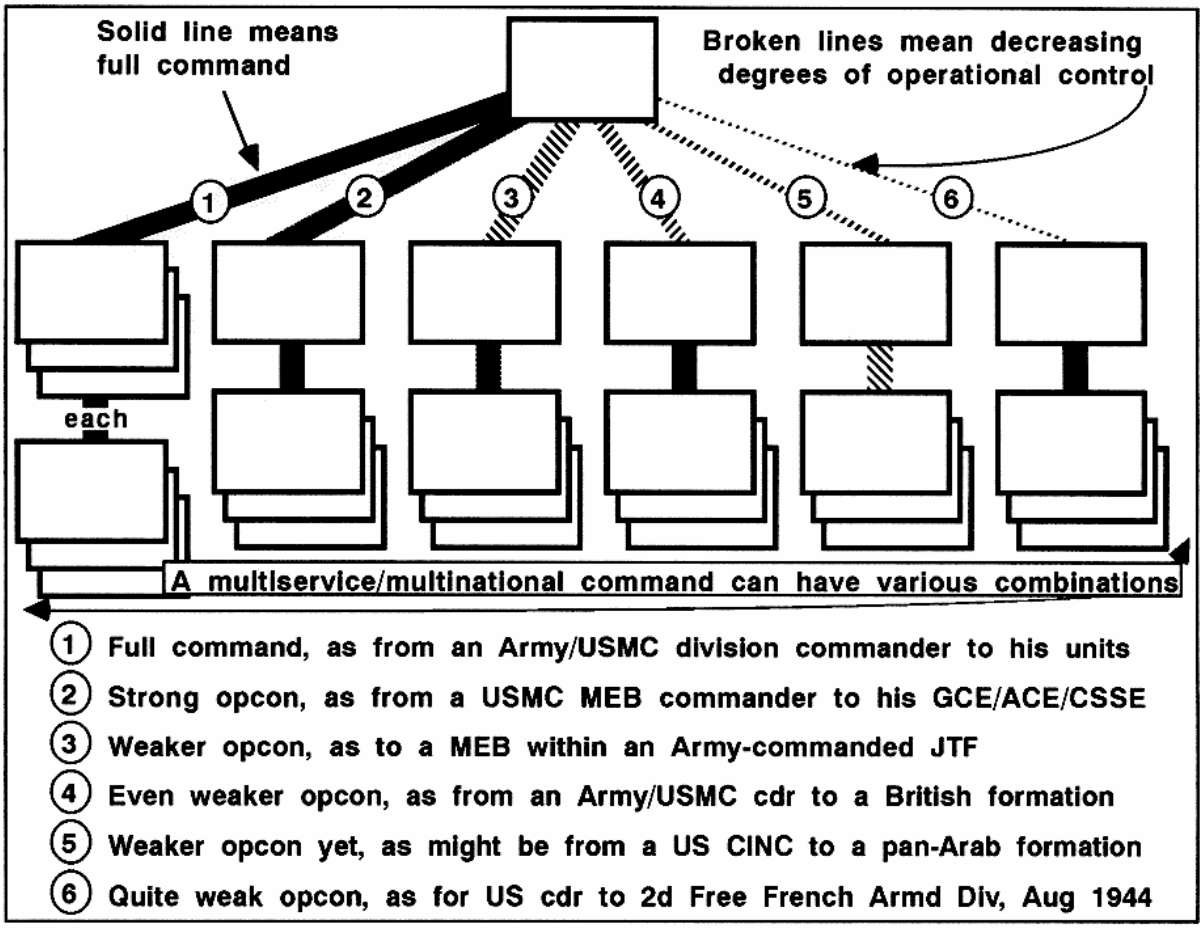

Figure 16. The Varying Meanings of Opcon

* Joint Pub 1-02, op cit, p. 262. Although stronger than its wording pre-Goldwater-Nichols, this JCS definition leaves something to be desired. Missing is any mention of "inspection and supervision of subordinate forces' performance." This essential element of command may be implied; it would be better if made specific. And not quoted in this extract are: "...normally this authority is exercised through the Service component commanders" and "Operational control does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training." Omissions, and provisions, like these contribute to the "wall of the component" (page 57), and tend to dilute opcon's effect when a commander of one Service has opcon over a formation of another Service (for formations of another nation a JCS definition has little effect at all).

The strongest degree of opcon is that within a single-Service formation, in which subordinate units which may not be organic (i.e., under full command) are nonetheless strongly bound by a Service-reinforced meaning of opcon (example 2 , Figure 16). Next weaker would be the practical opcon exercised by the commander of one Service over a formation of another (example 3); here the subordinate, not feeling the very real sanctions of intra-Service discipline, feels more free to put his own interpretation on, even to disregard, orders he might receive from his superior. A good example would be the actions of Major General O.P. Smith, USMC, who was in November 1950 unwilling (in this case, for good reason) to comply with the orders for the 1st Marine Division to press on rapidly to the Yalu, as issued by his corps commander, Lieutenant General Edward M. Almond, US Army.* Examples 4, 5, and 6 describe the increasingly weak opcon exercised over formations of other nations, the commanders of which are not bound by JCS definitions.

After Beirut and Grenada in 1983, the Iran Rescue Mission in 1978, and other incentives to correct the then existing situation in which unified commanders lacked command authority, the Congress in Goldwater-Nichols, 1986, laid down new authority. This language has since been embodied, albeit paraphrased, in the JCS-approved term "Combatant Command (command authority)." The law's authorities for the CINCs include:

> ...giving authoritative direction to subordinate commands and forces necessary to carry out missions assigned to the command
>
> ...authoritative direction over all aspects of military operations, joint training, and logistics
>
> ...prescribing the chain of command to the commands and forces within the command
>
> ...organizing [subordinate] commands and forces as he considers necessary
>
> ...employing forces as he considers necessary
>
> ...assigning command functions to subordinate commanders
>
> ...coordinating and approving those aspects of administration and support (including control of resources and equipment, internal organization, and training) and discipline necessary to carry out missions assigned to the command
>
> ...selecting subordinate commanders, selecting combatant command staff, suspending subordinates, and convening courts-martial**

---

* Roy E. Appleman, U.S. Army in the Korean War: South to the Naktong, North to the Yalu. Washington, Office of the Chief of Military History, Department of the Army, 1961, pp. 772-773.

**Public Law 99-433--October 1, 1986, Goldwater-Nichols Department of Defense Reorganization Act of 1986, Section 164 (c) Command Authority of Combatant Commanders.

This impressive authority came none too soon for General Schwarzkopf's predecessor, General George Crist, USMC, who in 1987 found himself responsible for the US Navy forces escorting reflagged Kuwaiti tankers which Ayatollah Khomeini threatened to attack as they transited the Persian Gulf. General Crist exercised a degree of supervision of the fleet by a non-US Navy CINC never known thereto. With the help of Admiral William Crowe, Chairman, JCS, whose authority Goldwater-Nichols had likewise boosted, he organized under one Navy command the carrier battle groups, to then under CINCPAC, and his own escort forces. When, in April 1988, Iranian gunboats attacked, his US Navy force was ready; his new command authority and consequent supervision had paid off.

Limits on multiservice command within US forces have long derived from the institutional strengths of the Services. Goldwater-Nichols went far toward equalizing the multiservice commander's clout with that of the Services, their Chiefs, and their "Service component" commanders in the field. Pointing to his mission responsibility and invoking the law, the CINC can now be on at least an equal footing with the Service Chiefs and can be the real boss of their subordinates placed under his command. The thinking behind Goldwater-Nichols' language has carried over into the meaning of opcon below the CINC's level, as defined at page 47.

The multinational command problem is different; Goldwater-Nichols does not apply. A subordinate of another nation can wriggle out of his control, or can drag his feet, or can "say yes and do no." So what does a coalition CINC do?

The answer: He leads, and he persuades, and he cajoles (taking sometimes days or weeks to bring about a result that in US-only channels he can get done right away), and he hopes that the coalition's political authorities and their national contingents reporting to him as operational commander will understand their own enlightened self interest (de Tocqueville's term) and do the right thing. But always in the back of his mind is the thought that the subordinate formation may not show up at all.*

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* Unhappy at an unauthorized action taken on his own by Major General Jacques LeClerc, commander of the French 2d Armored Division, in August 1944, his US corps commander recalled the action with this rebuke: "I desire to make it clear to you that the 2d Armored Division is under my command for all purposes and no part of it will be employed by you except in the execution of missions assigned by this headquarters." [Martin Blumenson, Breakout and Pursuit (Washington: Dept of the Army, 1961, p. 601) cited in J.S.D. Eisenhower, The Bitter Woods, (New York, Putnam, 1961) pp. 68-69]. Orders like this outside national channels, and on occasion even inside them, have a way of falling on deaf ears. Or to a blind eye, as "when (Horatio Nelson) adorned his refusal to obey Sir Hyde's weak signal of recall in the middle of the battle (of Copenhagen, 1801) which would have been disastrous if it had been acted on, by putting his telescope to his blind eye and declaring that he could not see the order to retire." [The Encyclopedia Britannica, Eleventh Edition (Cambridge, England, University Press, 1911), Volume XIX, p.357] The goal in the conduct of war is, of course, orders that both make sense and are obeyed.

Of the adverse influences on his degree of command, the most powerful is a conflicting national interest. A nation's authorities might conclude that their long-term political interests override the idea of a neat organization chart which says "operational control." Example: Arab leaders considering whether they will place national forces under US command. When the national interest is survival, this doubt tends to disappear, as it did on July 14, 1950; Syngman Rhee, President of the Republic of Korea, wrote that day to General Douglas MacArthur, the new United Nations commander in Korea:

> Dear General MacArthur:
>
> In view of the common military effort of the United Nations on behalf of the Republic of Korea, in which all military forces, land, sea and air, of all the United Nations fighting in or near Korea have been placed under your operational command, and in which you have been designated Supreme Commander United Nations Forces, I am happy to assign to you command authority over all land, sea and air forces of the Republic of Korea during the period of the continuation of the present state of hostilities...*

Absent a dire threat, and when considerations of prestige and desire to be independent prevail, the line of operational control can disappear (as happened when deGaulle withdrew France from NATO's military command in 1960). It can reappear when operational considerations override (as it did when France joined the Central Region's air defense structure in readiness, notwithstanding.)**

Of all the intangibles of coalition command and control, mutual trust between coalition partners is perhaps the most important. This prevails when objectives are mutually accepted; when a way of operating is mutually agreed; when members see that there is more to be gained by working together than there is by not; when the coalition military leaders' good faith is evident; and when hidden agendas are absent.

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*James F. Finley, The U.S. Military Experience in Korea, 1872-1982: In the Vanguard of ROK-US Relations (APO San Francisco, Headquarters U.S. Forces Korea, 1983) p. 59.

**See 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). Chapter VI describes how DeGaulle in 1944 looked on LeClerc's Free French 2d Armored Division as his own and LeClerc chafed under the opcon of the US V Corps commander as the time came to liberate Paris in late August 1944 (see footnote, page 49). Other cases in Chapter VI: Korea, 1950, when Syngman Rhee ordered the 3d ROK Division to cross the 38th parallel despite General MacArthur's lack of authority from the US President for his UN force to do so; Korea, 1979, when ROK Army Major General Chun Doo Hwan took forces from under General Wickham's UN Command in a power play for political control. (Chapter V of the same work describes how, pre-Goldwater-Nichols, Service influence frustrated the proper exercise of US-only operational comand in Vietnam 1968-69, Korea 1976-78, and Beirut 1983.)

If a reasonable degree of unity of command does not prevail in the Mideast situation when the battle is joined, execution of operations will surely suffer. But, putting the issue simply: Is the commander to command, or is he not?

The answer, in a coalition, is that in the sense of Goldwater-Nichols he is not going to command. But making the necessary motivational and conceptual effort, the coalition commander-in-chief can compensate to a substantial degree. Eisenhower did so in 1944-45, as did Ridgway in 1950-51. Even with Vietnam's limited charter and other handicaps, Abrams did remarkably well in that war's environment, 1968-71.

General Schwarzkopf, who brings to the coalition important experience as an advisor as well as combat commander in Vietnam, if he is named the coalition's commander-in-chief can well succeed in 1990 or 1991. But if he must operate in a parallel chain of command resembling that of Vietnam, the outlook for that battlefield unity of effort which is required in the kind of war facing the coalition force is not good.

Chapter VII. What Kind of War?

The Institute for Strategic Studies, London, credits Iraq with an army of 955,000, with nine armored/mechanized divisions and 40 infantry divisions, disposing of some 5,500 main battle tanks, 1,500 armored fighting vehicles, 6,000 wheeled or tracked armored personnel carriers, 489 helicopters of which 159 are armed antitank), and substantial quantities of artillery, surface-to-surface missile, air defense, and other weaponry. Iraq's air force includes two bomber, 22 ground attack, and 17 fighter squadrons -- a 689 combat aircraft mix of Soviet, Chinese, and French types. Iraq's navy has five frigates and 38 patrol and coastal combatants.*

Annex 1 describes the forces of Desert Shield (Peninsula Shield to Arab forces).

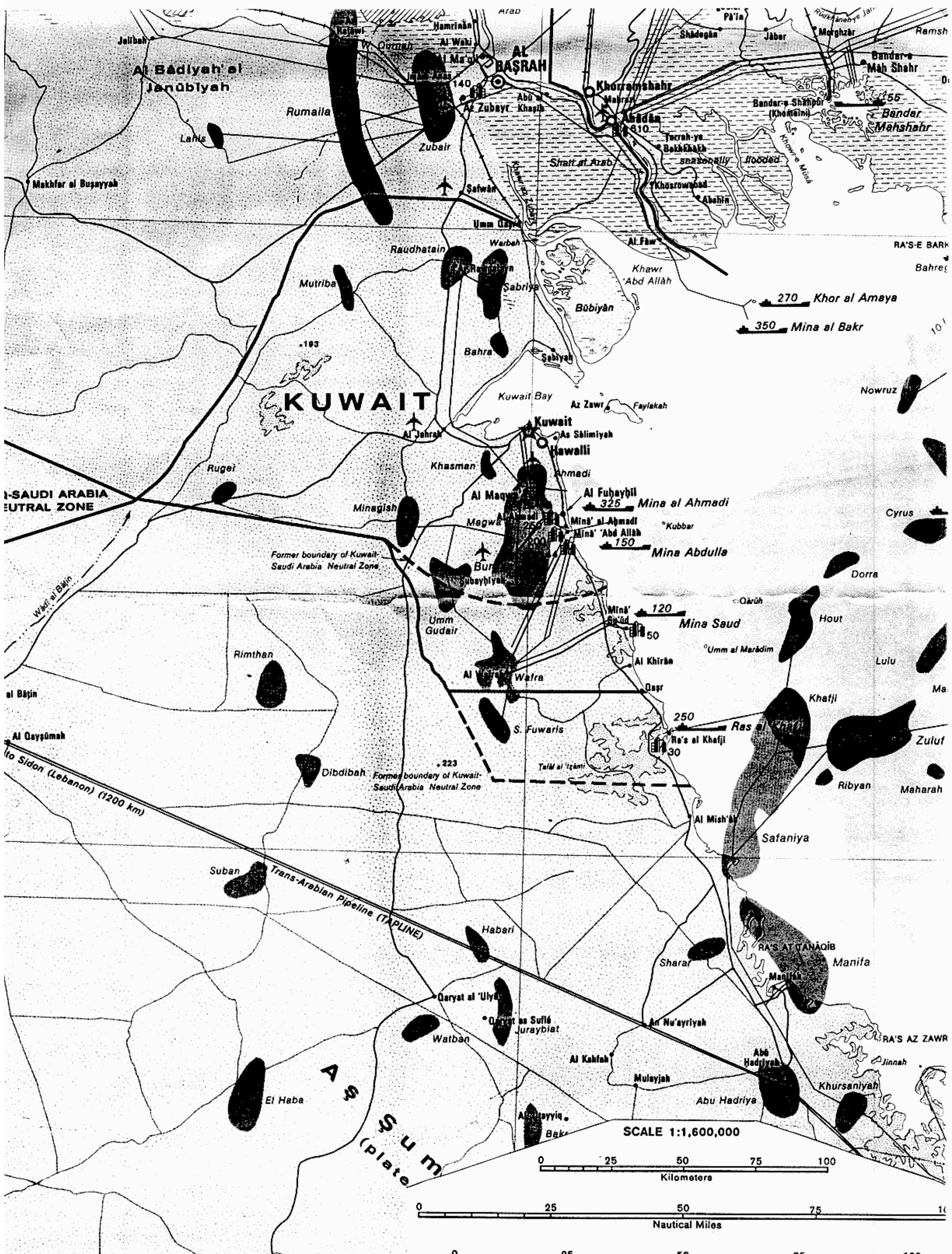
Should these two forces clash, it will surely be an air war; air is the US and Saudi strong suit and the coalition's immediate air task must be to sweep the Iraqi air force from the sky. Although far from simple -- with its need to coordinate air tasking, force packaging, refueling, air defense warning, and air control -- and although overcoming the Iraqi air defense will not be "a piece of cake," air warfare is a well understood matter of targeting, attack execution, and air-to-air combat. USAF, US Navy, and USMC air have been in the region and working with the Saudis and British long enough to give confidence that General Schwarzkopf and his JFACC (see page 30) have a good handle on the air war. After achieving air supremacy, many things become possible, including devastating punishment of Iraq's land formations deployed in the open.

It will not be much of a naval war. Iraq's threat to the coalition's fleet consists of mines and patrol craft and its air force carrying Exocet missiles. Should war start, the fleet can drop the embargo for a while and concentrate on the air and air/land war. Air supremacy achieved, the fleet will be secure, available to bear down on Iraq from the air and offshore.

It will include unconventional war -- suicide squads, terrorists, saboteurs, and special operations forces behind our own lines, and probably against the US world-wide.

And the coalition must without question prepare for a land war (map next page). Whether Iraq or our side starts the fight, it must be assumed that Iraq could quickly attack into Saudi Arabia on the ground, or that our side might take the offensive into Kuwait. In either event, a land (air/land) war would erupt across the front. Experienced in the conduct of combined arms fighting, the Iraqis seem able either to conduct a tenacious, obstacle-intensive, defense or to launch massed, artillery supported, armored thrusts across the desert, seeking to break through and roll up the defending force. They would use what air they have, as long as they have it. They may well use chemical weapons. Defending, our

*The Military Balance, 1990-1991, The International Institute for Strategic Studies, London, pp.105-106.



Jalibah
Al Bādiyah al Janūbīyah
Rumaila
Lahis
Zubair
Makhfar al Buşayyah
AL BAŞRAH
Al Waki
Hamrinah
Az Zubayr
Abū al Khaşib
Şafwān
Umm Qaşr
Khorramshahr
Ābādān
Shatt al Arab
seasonally flooded
Khosrowabad
Bandar-e Shāhpūr (Khomeini)
Bandar-e Māh Shahr
Bandar Mahshahr
155
Shādegān
Jāber
Morghzār
Ramsh
Khowr-e Mūsā
Al Fāw
RA'S-E BARK
Raudhatain
Warbah
Mutriba
Şabriya
Khawr 'Abd Allāh
Būbiyān
270
Khor al Amaya
350
Mina al Bakr
Bahra
Şabiyah
KUWAIT
Kuwait Bay
Az Zawr
Faylakah
Kuwait
As Sālimiyah
Hawalli
Al Jahrah
Khasman
Ahmadi
Al Fuhayhil
Rugei
Al Maqwa
325
Mina al Ahmadi
-SAUDI ARABIA
EUTRAL ZONE
Minagish
Magwa
Mīnā' al Ahmadi
Mīnā' 'Abd Allāh
150
Mina Abdulla
Kubbar
Former boundary of Kuwait-Saudi Arabia Neutral Zone
Wādī al Bāţin
Umm Gudair
Qārūh
120
Mina Saud
50
Umm al Marādim
Rimthan
Al Khirān
Wafra
Qaşr
250
Ras al Khafji
Ra's al Khafji
30
S. Fuwaris
Al Qayşūmah
to Sidon (Lebanon) (1200 km)
Dibdibah
223
Former boundary of Kuwait-Saudi Arabia Neutral Zone
Al Mish'āb
Nowruz
Cyrus
Dorra
Hout
Lulu
Khafji
Zuluf
Ribyan
Maharah
Safaniya
Suban
Trans-Arabian Pipeline (TAPLINE)
Habari
RA'S AT TANĀQIB
Manifa
Sharar
Qaryat al 'Ulyā
Qaryat as Suflā
Juraybiat
Watban
An Nu'ayriyah
RA'S AZ ZAWR
Al Kahfah
Abū Hadrīyah
Jinnah
Mulayjah
Khursaniyah
Abu Hadriya
El Haba
AŞ ŞUMM
(plate
SCALE 1:1,600,000
0 25 50 75 100
Kilometers
0 25 50 75
Nautical Miles

side will seek to hold, to delay, to stop the attack, to seize the initiative, and to destroy the attacker. Attacking, our side will seek to discover or create Iraqi vulnerabilities and then to exploit those vulnerabilities with decisive, air and attack helicopter supported, firepower-aided, maneuver to cut to pieces and destroy the Iraqi army. US Army forces can be expected to fight the way they have written their doctrines and have been trained. Their operations will likely resemble those practiced by the two US corps in Germany and their III Corps Stateside reinforcements, and at Fort Irwin's National Training Center in the California desert.

An amphibious war is likely but not certain. A Marine Expeditionary Brigade, or more, afloat can tie down Iraqi reserves; but those Marine ground combat and support elements could well leave their amphibious ships and join the two Marine divisions (minus the RLTs afloat) which the Marines will have formed in a couple of months time. CINCCENT, who would make that decision, and his Marine commanders may want to threaten an Inchon, but they may not be fighting one for a while. When that time comes, Iraq could be so punished that the war will be essentially over and Kuwait can be liberated by an administrative move.

The First Imperative: Take It Seriously

This should go without saying, but say it we will. Taking it seriously has no options, but it has implications.

War, if it comes, will be a profound test of the American people and their institutions. While no one can foretell its consequences, the American people should go into war as informed as they can be of what those consequences might be. The US armed forces can be expected to do what they must do, but before they are committed to the battles above described they deserve a Constitutional declaration of war, or an equivalent expression of the Congress speaking for the people of the United States.* And they need forces adequate to do the job at hand, according to the strategy established. These will be considerable if a land offensive to liberate Kuwait is contemplated.

And the American people have a right to expect some things from the commanders of the forces the United States sends to battle: accurate estimates; energy; professionalism; forthrightness; selfless efficiency; ruthless determination to prepare the force for battle; anticipation of problems; solving problems ahead of time; watchfulness; operations security.

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*"In the strict legal sense, the United States enters a state of war only by formal declaration of Congress, which possesses the sole constitutional power to do so. The United States has declared war on five occasions: with Britain (1812); with Mexico (1846); with Spain (1898); with Germany and Austria-Hungary (1917); and with Japan, Germany, Italy, Bulgaria, Hungary, and Rumania (1941-2). A President, as commander-in-chief, may commit U.S. Forces to to military action when the circumstances do not warrant or permit time for such a declaration." From FMFM 1, Warfighting (Washington, Headquarters US Marine Corps, 1989), p. 79.

There is no indication that commanders are acting other than accordingly, yet an example can be offered: What about replacements for battle losses? Are the first contingents named, trained, and ready to fly to Saudi Arabia immediately, should war erupt? Is their in-country processing ready? If not, get them ready. If a land war of some duration is foreseen, advise the Secretary of Defense and President to reactivate the draft.*

If any commanders are of doubtful quality, replace them. If a senior commander needs to take from one and give to another in the interest of all, accept the decision and get on with the job. The principle is simply stated: insure success; leave nothing undone that can be done.

A word on casualties. Committed to battle in the national interest, men will do their duty and die; other men will be maimed for life; and others will suffer lesser wounds. Women, although not serving in the close combat units which as always will take by far the greater share of casualties, will die and be maimed or wounded as well. No one can predict casualties with precision, and whatever the number might turn out to be will be too many. But history has shown that well-prepared and well-employed troops suffer least and that great results can stem from small losses. The overriding watchwords are "Do it right," "Accomplish the mission," and "Bring them back alive."

Some day this will all be over and the historians will describe how it was done. Commanders: Act now so that the tale then told, whether of war or of only preparation for war, will be worthy of the best, and in fact will set a new standard, in American military traditions.

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*Although whether to reactivate Selective Service has been little discussed, that issue is fundamentally related, albeit indirectly and in a way explained below, to the quality of command and control in the theater. Should the draft issue even be raised for serious debate, the consequences would be profoundly divisive in American politics and society. For example, are women to be be drafted? Leading to, why are we fighting in the desert anyhow? All this argues for a short war, once war has been duly declared, the casualties of which are sustainable by the volunteer force on hand plus those who can be recruited (or called in from the reserves, itself a sensitive matter). That in turn argues for a decisive air war (in which command and control would be critical), followed by land operations, if they are required, which too must be decisive, meaning of the highest quality. This in turn means superior air/land command and control in all dimensions -- from the CINC, to operational and tactical teamwork at division and brigade/regiment and their maneuver units and collateral systems, down to the individual fighter pilot, tank crew, artillery forward observer, and rifle platoon.

Chapter VIII. Organizing the Force for Battle, and Options

The first imperative was to take it seriously. The second imperative is, taking it seriously, to organize the force effectively for battle. The options here are (1) the component approach; (2) the systems approach; and (3) something in between.

Components

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.

Owing to the way these providers of forces build and indoctrinate them, each component, including that of special operations, comes to the unified command with a culture and ethos of its own forming an invisible but very real "wall" which resists placing its units under another "component" (Figure 17).

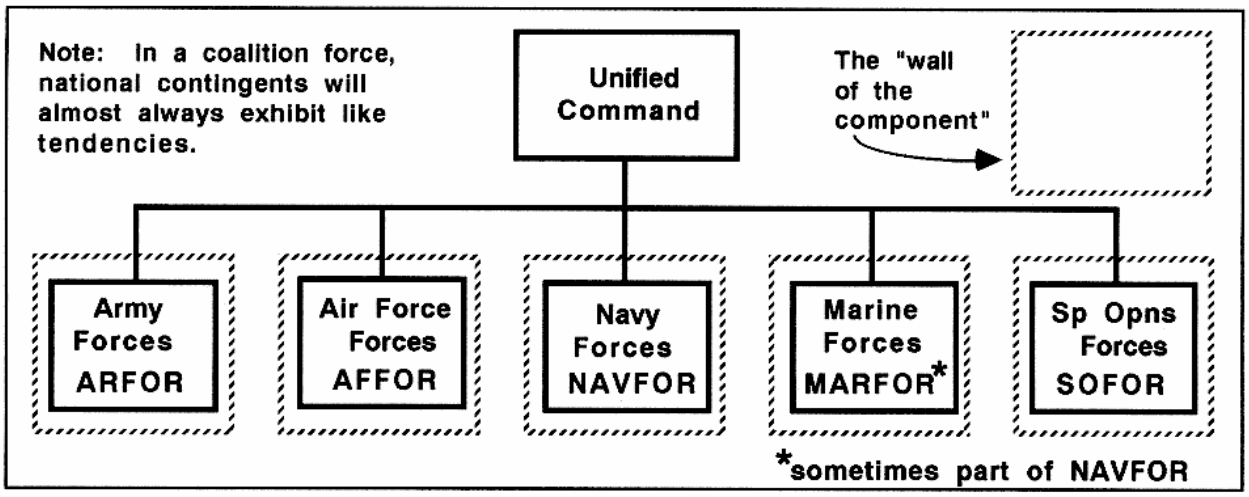

Figure 17. The Components of Unified Command, and their "Walls"

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

*For a full treatment of this history, see John H. Cushman, Command and Control of Theater Forces: The Korea Command and Other Cases, op cit, pp 5-14 to 5-28.

**Legislation speaks only of Service "forces." Example is Goldwater-Nichols, op cit, Section 162, which reads in part "...the Secretaries of the military departments shall assign all forces under their jurisdiction to unified and specified combatant commands to perform missions assigned to those commands."

battle.* The phenomenon exists also in national contingents. It was there in 1917 when General Pershing fought to have the AEF enter combat under American command, modifying his position only when the Allied armies needed his formations to survive. In the Mideast situation, the Arab nations may well insist on fighting only under Arab command.

The component approach says that General Schwarzkopf would keep his US Service "components" relatively pure, using them as his basic fighting formations, and would accept a separate pan-Arab ground contingent (which, indeed, he may not even command, but with which he can only coordinate).

The advantage is that this approach delegates the fight to well-defined command jurisdictions whose forces are used to working together, and minimizes the need to reindoctrinate. However, accepting such walls considerably inhibits flexibility in operations. Figure 18's differently hachured pieces represent the use of components taken to an extreme, with sizeable national or Service "components" separately engaging in the same fight and the enemy taking advantage of vulnerabilities caused by component walls..

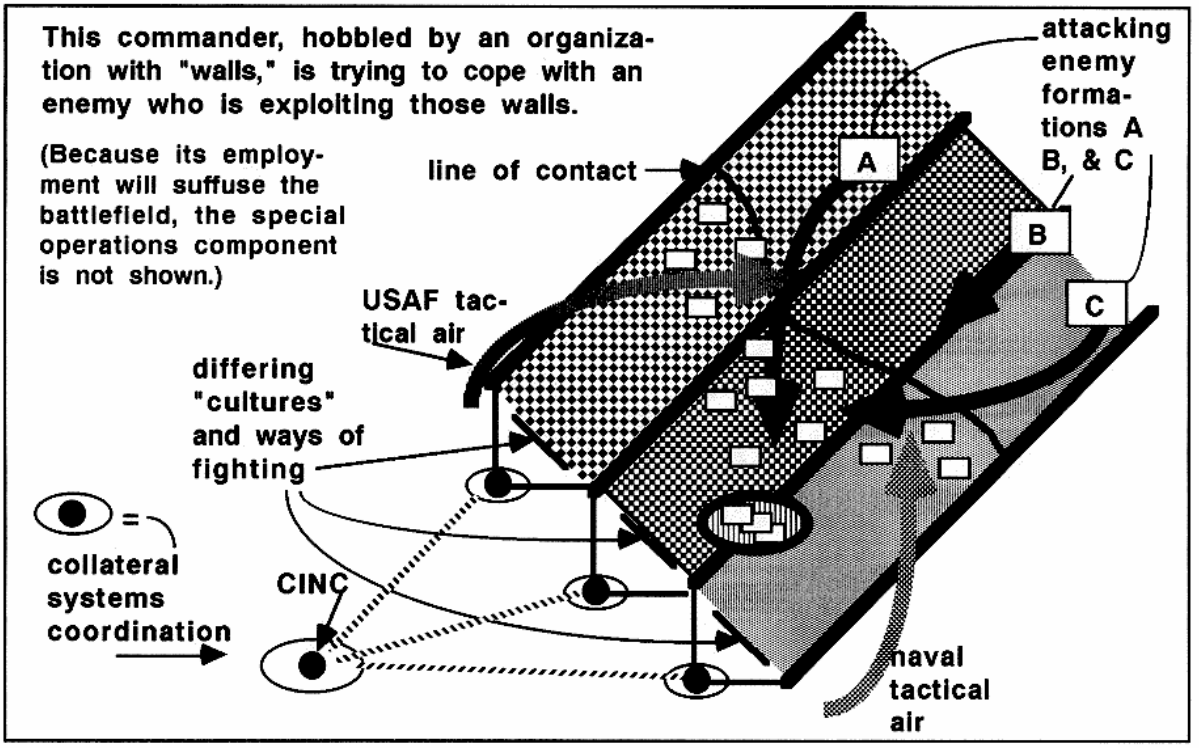

Figure 18. The Operational Problem Caused by "Walls"

Figure 18's small empty rectangles represent the idea of maneuver units, say brigades, regiments, or battalions. Keeping maneuver formations "pure" by national or Service is

*See C. Kenneth Allard, Command, Control, and the Common Defense, (New Haven, Yale University Press, 1990)

difficult enough, even though their reach is measured in only hundreds or thousands of meters*. Artillery, which can shoot 15 or more kilometers, is more difficult; one component will often need another's fire support. Tactical air, with its range, flexiblilty, and decisive effect, can range the full battlefield, striking deep and supporting all fighting formations. An AWACS air defense radar sees the entire battlefield, and the Hawk missiles in one component can shoot down enemy aircraft over a component alongside. Intelligence likewise has problems with component boundaries; indeed the enemy's boundaries will never match our own. The electron wears no uniform; jamming by one battle participant against an enemy can affect a friendly formation attacking a different enemy. Common logistics, from water to ammunition to fuel to transport to medical support, is a force-wide affair. Even those items which are force-peculiar, like replacements and repair parts, share transport which calls for common management.

At Waterloo, Wellington could afford to think almost entirely in terms of maneuvering national contingents. But warfare is more complicated today. Indeed, technology has made warfare, should it come in the Mideast, far more complex than it was in the global theaters of 1941-45 and strict adherence to the component approach is inconceivable.

Fortunately, the CINC (any CINC) is not required, for US forces, to use the component approach. Goldwater-Nichols gives each CINC authority to "(organize his) commands and forces as he considers necessary."

Organizing According to the Component Approach

Recognizing that it is more than a little presumptuous, let me explain the available options as if CINCCENT were meeting with his five component commanders: ARCENT (CG, 3d US Army), NAVCENT (Cdr, 7th Fleet); CENTAF (Cdr, 9th Air Force); MARCENT (CG, I Marine Expeditionary Force); and SOCCENT (no other title). CINCCENT is speaking:

> "Gentlemen, I have called you together to review some options for organizing this command for combat, looking forward to when our reinforcement forces begin to arrive.
>
> "One option is to use essentially the 'component approach.' I show two versions of this approach on this chart (Figure 19, next page). This shows a defensive posture, in which the Arab and French contingent is deployed forward; I'll touch on these forces later.
>
> "In this approach, each component is organized just the way it is assigned to my command. Under ARCENT would be the XVIII Airborne Corps already here and

*Generally speaking, in mobile warfare it is best to retain Service or national maneuver forces at no less than battalion, and preferably at brigade/regimental, size.

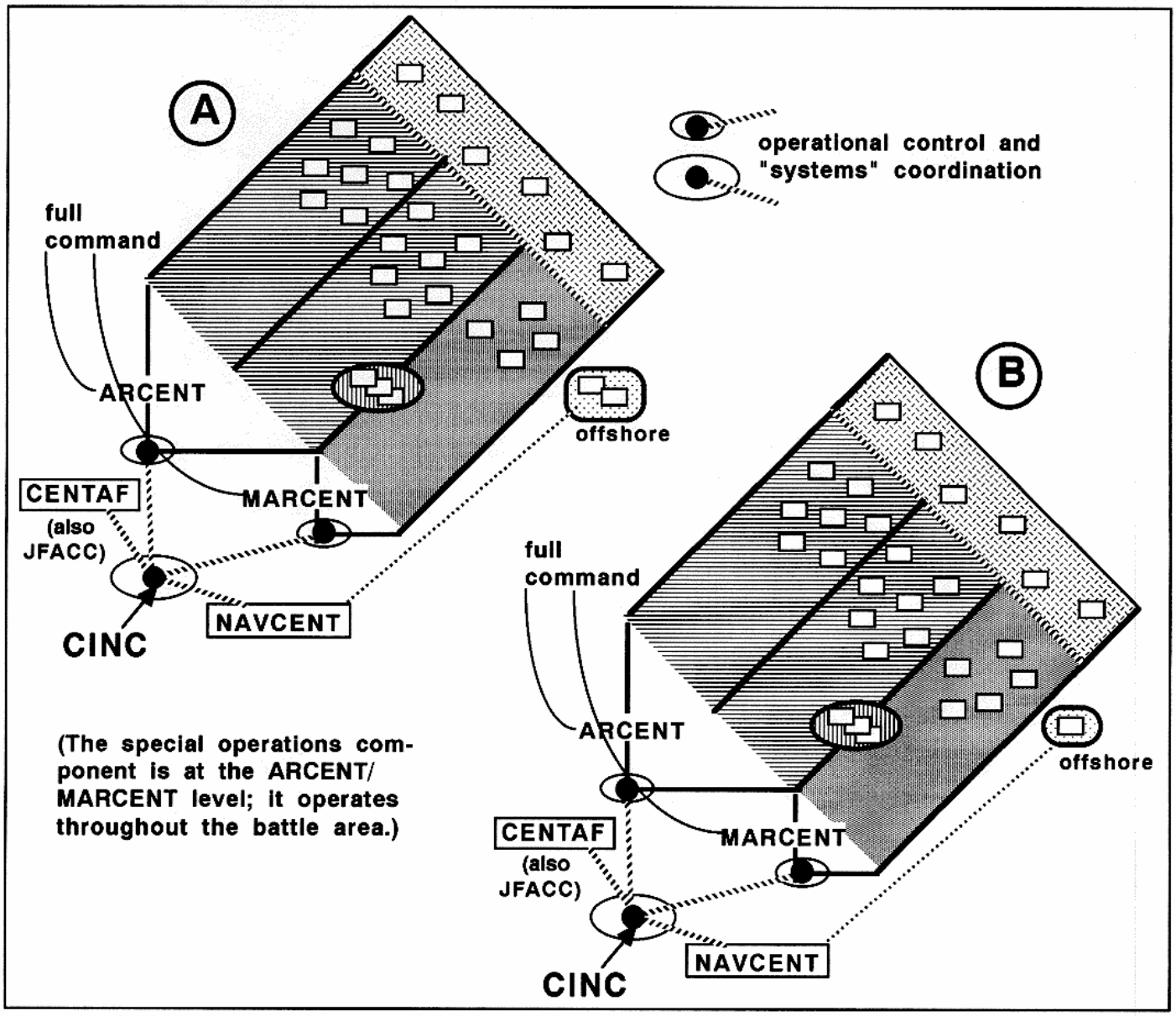

Figure 19. Organizing According to the Component Approach

the new VII Corps, from Germany. These two corps command all the Army divisions and maneuver brigades and regiments, plus their corps troops and corps support commands. There are of course some Army units (rear area logistics, maybe the Patriot air defense, and so on) not assigned to the corps.

"CENTAF is Ninth Air Force. NAVCENT is the Seventh Fleet. MARCENT is all the Marines under single command. The oval on the boundary between MARCENT and ARCENT is the British 7th Armoured Brigade. I do not show SOCCENT; it operates throughout the battle area.

"Version A in the chart reflects a sizeable amphibious force afloat; let's make it a Marine Expeditionary Force with, say, two regimental landing teams in its ground combat element. Version B reflects a smaller amphibious force, say a one-RLT MEB. Of course, in both versions Marine fixed wing air is stationed ashore. There could be a third version, in which all Marine ground forces are ashore in a two-division force, but I won't go into that. I'd like to retain an amphibious capablilty.

"The Secretary of Defense is deploying two MEFs, each presumably organized USMC-style with a three-star Marine in command. In Version A I would use one MEF under three-star command afloat. In Version B, where the MEB would be commanded by a brigadier general, I would expect the two-division Marine force ashore (less that MEB) to be pulled together under one lieutenant general, who I perceive would under Marine doctrine own the USMC tactical air in the two Marine Aircraft Wings, one with each deploying MEF. I'm not sure how we would use the other three-star Marine.

"In passing, it seems to me that the doctrinal, one division, MEF idea comes apart when we have the better part of two Marine divisions ashore.

"In any event, in the component approach, one three-star Marine under my command fights the Marine force of whatever size ashore under his full command. The MEB (or MEF, if we have one) offshore of course comes under fleet opcon (namely, that of Cdr NAVCENT) while afloat and indeed until the amphibious phase of a landing operation is completed by mutual agreement between the landing force commander and the naval amphibious task force commander.

"Meanwhile, under the component approach the Cdr ARCENT has full command of all Desert Shield Army forces. When the Army reinforcements arrive, this will amount to two corps headquarters and some six or seven division equivalents total, plus corps and field army troops and theater army logistics units. In the component approach, Cdr ARCENT is both an operational and a logistical commander.

"In the component approach I will designate the Cdr CENTAF as JFACC.* Other than that, in this scheme we fight our forces component by component.

"OK. That's the component approach to organizing for combat."

*See page 30 for description of JFACC.

Organizing According to the Systems Approach

CINCENT continues:

"I have two problems with using the component organization for fighting, as distinguished from using it for administration. One is its obvious lack of operational flexibility. The other is its sheer inefficiency.

"Take MARCENT. We have here a three-star general commanding at most two divisions, minus the MEB afloat.

"ARCENT is no better. Here we have a field army commander with only two corps to command. In World War II, General Patton's Third Army routinely commanded three or four corps.

"If we look at the AH-64s as tactical air, which they closely resemble in their effect, we have four separate tactical air forces (five, including AC-130s and other air firepower of SOCCENT). There will never be enough tactical air, so we have to find a better way to maximize its employment.

"The idea behind the 'systems approach' is that the elemental forces which fight air/land/sea warfare can be viewed independently of the uniform their members wear and of the Service or nation that generate the forces; they can be seen as 'systems.' Thus tactical air is a 'system' -- it should not matter to a maneuver unit commander in battle if his close air support is delivered by USAF, USN, or USMC fighters, as long as the CAS is quick to respond, on time, and delivers the right ordnance on the right target. Air defense is a system -- a USMC, a US Army, and a Saudi Hawk battery are pretty much the same; commanders care not which shoots down an enemy fighter, as long as the fighter is quickly shot down.

"This chart (Figure 20, next page) shows two schemes for organizing under a systems approach. Incidentally, my first step in this approach would be to get rid of the component terms ARCENT, CENTAF, NAVCENT, MARCENT; these are bureaucratic titles through which the Services provide forces. When we fight our forces, we will use the time-honored designations under which these commands earned the campaign streamers which their colors bear. I think General Patton for one would approve.

"In Scheme C I would take the CG, Third Army, out of the operations business and make him the logistics commander for our full force. He is already doing this in a big way; logistics is a big enough mission without putting him into operations. (I'm not sure General Patton would entirely approve doing this, but I think he would understand.)

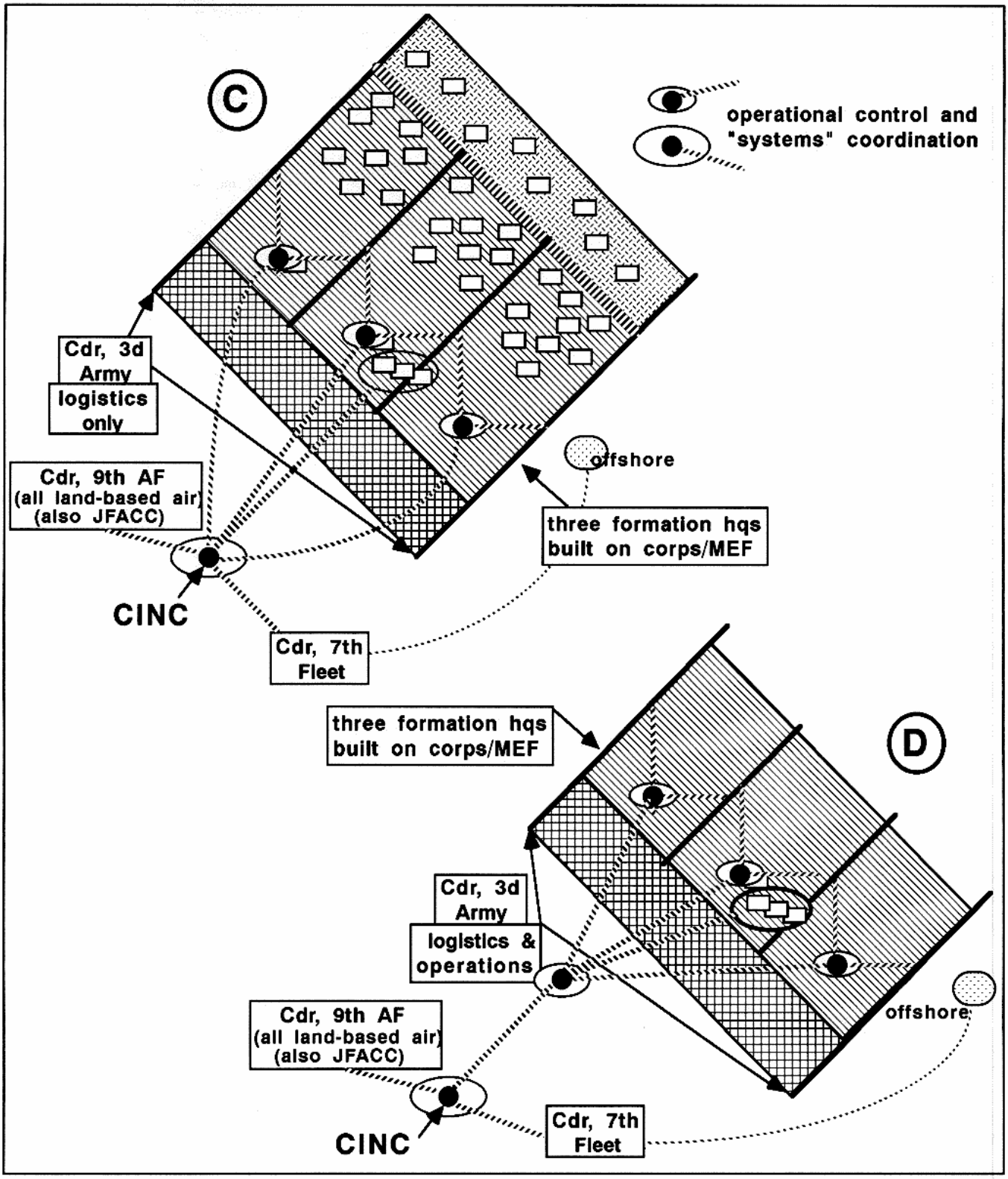

Figure 20. Organizing According to the Systems Approach

"I would then create three roughly equivalent air/land formations, each with a three-star commander. One would be built on I MEF, now in place; the other two

would be built on the VII and XVIII Airborne Corps. Each of these would be able to handle any combination of Army and USMC maneuver formations, and allied formations as well. Each would have a mix of "corps troops", USMC and Army as appropriate, including Apache units. Each could have a mixed Army/USMC staff; in fact, we could call each a joint task force. Their commanders would report directly to me (as would an all-Arab corps, should there be one and should I be given command of it).

"I would put all land-based fixed-wing tactical air under the Cdr, Ninth Air Force. He is already the theater air defense authority, with direction of Patriot and HAWK air defense, and is responsible for airspace control. As JFACC he would also direct the employment of that carrier-based air which is not required for Seventh Fleet missions. I foresee little air to be required for the fleet itself, considering that there is virtually no naval threat to our fleet.

"Scheme D is like Scheme C, except that CG Third Army has an operational mission as commander, land forces. Inasmuch as this adds a command and coordinating echelon between me and the corps/MEF commanders, I tend to think that it would slow things down. But it is worth considering.

"Of course, I have the authority to order either one of these. And while US statutes do not govern the forces of other nations, I would bring them along in this scheme as best I could through persuasion, logic, and the common interest mutually perceived.

"This would be an open approach to organizing the theater. It is aimed at wall-lessness and efficiency. Its implications are many. It permits mutually understood, consistent, coherent concepts of fighting across the front. It allows collateral systems like tactical air, intelligence, electronic warfare, and air defense to overcome artificial barriers. Our maneuver forces and their supporting systems are sure to be mixed soon after war starts; we want them to be as mixable as it is possible to achieve before war starts. My only reservation is whether there is time to do this before we have to fight offensively, which I consider demands this approach. I believe we have the time.

"Both Schemes C and D would require some work in integrating command and control systems. And both schemes will require training in teamwork. I'll address those matters later. In the meantime, any comments?"

Something In Between

CG, I MEF, was the first to speak: "Sir, you would be breaking up a well-trained team. Marine Corps air is organic to our MAGTFs; that's the way we train and fight, and we don't

need any Apaches. When the reinforcing Marines arrive, I see us as simply one large MAGTF; in this case a two-division MEF. Also, it really does matter to us that CAS is provided by Marines. Why not set up a modified systems approach, coordinating those functions of the two-division MEF that go outside, like logistics, air defense, intelligence, and EW? Leave our force as it is and, if you want to increase my span of control, assign the British 7th Armoured Brigade to us, and maybe one of the Army divisions. They can send us liaison, and we can send Anglico teams to them."

He went on, "JCS Pub 12 prescribes how MAGTF air is to be handled, and I quote:

> 'The MAGTF commander will retain operational control of his organic air assets. The primary mission of the MAGTF air combat element is the support of the MAGTF ground element. During joint operations, the MAGTF air assets will normally be in support of the MAGTF mission'

He continued: "As you know, the pub goes on to say...

> 'Nothing herein shall infringe on the authority of the Joint Force Commander in the exercise of operational control to assign missions, redirect efforts, and direct coordination among his subordinate commanders to insure unity of effort in accomplishing his overall mission or to maintain integrity of the force.'

*Finally, CG I MEF said: "I want to be able to task my own tactical air, informing the JFACC daily of whatever is excess to my needs and he can task that. When you have an

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*Marines believe that they have good reason to think and speak this way. USMC history is laced with what Marines believe have been attempts to abolish the Corps or to have it "stripped of everything but name." (These were the words of General Vandegrift, Commandant, testifying in the1947 House hearings on the National Security Act of 1947). In similar hearings in 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." See Edwin H. Simmons, "The Marines: Survival and Accommodation," cited in Evolution of the United States Military Establishment Since World War II, edited by Paul R. Schratz (Lexington, VA: George C. Marshall Research Foundation, 1978) pp. 73-89. In every discussion of organizing joint forces for combat, a major Marine concern, rarely expressed but regularly in the background, is that "the Air Force wants to take over Marine air and the Army its ground formations." 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. On the other hand, it can be argued that, inasmuch as the basic air/ground composition and three division/three air wing size of the Marine Corps is now firmly written in law, there is no threat whatever to either to its existence nor indeed to its continued prosperity as an essential part of the American defense establishment -- and that what is involved in this discussion is not the composition of the Corps, or the operational value of its formations, but the responsible commander's judgment as to the best employment of those formations toward mission accomplishment under joint command.

emergency that requires you to take tactical air we haven't volunteered, that's your decision to make and we'll quickly comply."

"Good points," said CINCCENT, "Let me think about it."

Problems of Language

This discussion of components has been in an all-US context. But the Mideast force is both multinational and multi-lingual. This adds problems of a different dimension.

Air warfare planning and execution can be in English. The number of nations contributing air forces is small; airmen, whatever their mother tongue, almost all speak English; and Saudi and Kuwaiti fighter pilots and Saudi AWACS operators are US-trained. And fleet surface operations (convoy, mine clearing, blockade enforcement) in the Persian Gulf have for some time accommodated language differences among the national contingents.

The major problems of language would arise in air/land operations, not simply in the direction of maneuver but in the coordination of collateral activities, such as intelligence, artillery fire support, and tactical air. Jokes about accents aside, the British 7th Armoured Brigade presents no problem here, and the French force is small. Americans are used to working with these nationalities, NATO standardization is already in effect, and exchange of liaison teams would be adequate.

The language problem is essentially between English-speaking formations, Americans primarily, throughout the air/land force and Arabs. This is an unfamiliar mix to both.

One solution, probably preferred, is to keep the forces separately organized. In principle, the larger the single-language contingent, the fewer the problems. Using this approach, an Arab corps is indicated. Another solution is to provide liaison teams, especially for tactical air, with their own communications, to Arab units -- the lower the echelon, the better. Special liaison teams, with communications, can be put together to provide US-collected and correlated intelligence. A key solution is combined training, both at lower echelons where US liaison teams go into the field with Arab brigades and battalions, and at higher echelons where warfare simulation can exercise maneuver and collateral activities at brigade, division, and corps. (See Chapter X, Training the Force, and Options).

Americans have used these solutions before; with their allies they have learned that where there is a will there is a way.*

*The Korea experience, with its two languages also, is instructive. The American CINC, ROK/ US Combined Forces Command, has a four-star Korean deputy and a bi-national English-speaking staff. Orders go out in English to English-speaking formations (including the binational tactical air command), and in Korean to Korean formations, such as the ROK field armies. Binational exercises and warfare simulation are common.

Chapter IX. A Superior C3 System for the Force, and Options

The third imperative is to establish a command, control, and communications (C3) system for the force that is of the highest quality possible. Highly effective C3 is rightly called a "force multiplier" -- but poor C3 is a severe "force inhibitor."*

Although much has been done recently, the C3 systems now fielded in theater forces remain the heritage of years of largely unplanned splicing together of ill-fitting components which were delivered to the Service elements of joint forces by relatively independent parties far away who coordinated adequately neither with the joint commanders nor with each other. The mix of communications, computers, sensors, downlinks, and so on which make up the C3 system of an all-Service force in the field today derives from a collection of separately developed Service components with an "interoperability" overlay.

Some Basics of C3 Systems**

A C3 system consists of C2 (command and control) nodes -- e.g., command posts, operations centers, ships, aircraft -- and the communications that link these nodes.

There are essentially two kinds of communication links: "nets" and "switched lines." The combat net radios (CNR) in the hands of troops make up the "nets." The point-to-point cables and microwave shots called area common user (ACU) are the "switched lines." Satellite links are nettable and can be equivalent to point-to-point switched.

The combat net radio equipment in the field today is essentially the decades-old VRC-12 family of FM (frequency modulated) voice radios operating in the VHF (very high frequency) band. Of medium range (20-30 kilometers), these radios were built to serve brigade maneuver control and support operations to battalion and company level, although higher command echelons also use them. This radio family is being replaced by a new family of anti-jam radios called SINCGARS (single channel ground/air radio system), which can transmit voice, record (facsimile), and tactical data (computer-to-computer) traffic. Troops of Desert Shield use a mix of the two.

Another new combat net radio is the improved High Frequency Radio (IHFR). It provides voice, teletype, data, and facsimile over medium to long (e.g., 1500 km) distances. The IHFR is valuable for operations control and other nets where units are separated by long distances, as would likely be the case in the Mideast. It is found at levels down to brigade and in some separate battalions. IHFR has an anti-jam feature.

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*To highlight the great importance of dedicated intelligence systems, which are often not considered as part of the command and control problem, some senior commanders choose to use the term "C3I", so as specifically to add intelligence to the equation.

**This section is adapted from "Five Lessons in Command and Control of Joint Force Operations" presented by the author at the School of Advanced Military Studies, US Army Command and General Staff College, Dec 1989.

Combat net radio (CNR) has a major advantage over point-to-point switched. It permits all stations on the net to "eavesdrop" -- to listen to others' traffic -- and thereby to be informed of the situation without additional message traffic.

In the field today, the area common user (ACU) system is a largely automated TRITAC* switched system of satellite and point-to-point microwave shots and (limited) wire lines. Within the next four years, the ACU system in the corps and divisions of the Army will be converted to Mobile Subscriber Equipment (MSE). The Army troops in Desert Shield are using a TRITAC/MSE combination.

The key TRITAC equipments are the switches, at nodes linked by satellite and point-to-point; these provide automated direct dialing. As MSE comes on the scene, TRITAC switched circuits will be increasingly able to handle "packets." In packet switching, the components of messages are broken down into small parts (packets) at the sender's location, routed over different paths, and assembled at the addressee location.

MSE provides stationary or vehicle-mounted "subscriber terminals" (telephone, facsimile, or 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). MSE is a tactical "cellular" radio/telephone system with an ever-changing network of node centers linked by line-of-sight shots. Each stationary or moving subscriber retains his telephone number, and with computer assistance MSE routes each call -- entered at the caller's touch-tone instrument -- to the subscriber and maintains an end-to-end link until the call is completed.

USAF and USMC units, and some Army units, do not have MSE, but can be served by MSE through TRITAC switching. USAF ALOs and TACPs in Army divisions can be provided with a stationary subscriber terminal in their CP duty locations and a corps ASOC can also be MSE subscriber terminal equipped.

Although neither CNR nor ACU communications systems were designed to carry data, they have been adapted to do so, thereby serving the many automated C2 processors and displays which use digital data.

Military use of satellite communications has mushroomed in recent years. Satellites can provide either point-to-point links, or net-like broadcasting. A satellite message from one earth station, as transmitted downward from a satellite, can be heard by any station in its footprint area, provided that station can tune the frequency and decode whatever encryption protects against unwanted listeners. Single channel satellites transmit on only one

*TRITAC (tri-Service tactical communications) was a DoD program to build common communications equipment that could be shared by all Service.

channel; multichannel satellites transmit on several channels, tunable by multichannel receivers.

Option: Make the Most of Existing Systems

One option, no doubt in progress in Desert Shield today, is to make every effort to improve what the troops have. Organizing to fight by component only would simplify this, but the likelihood of multiservice formations is so high as to require an all-Service hookup like that shown at Figure 21*. The figure does not begin to show the density and complexity of the hundreds of nets and switched links that populate the force.

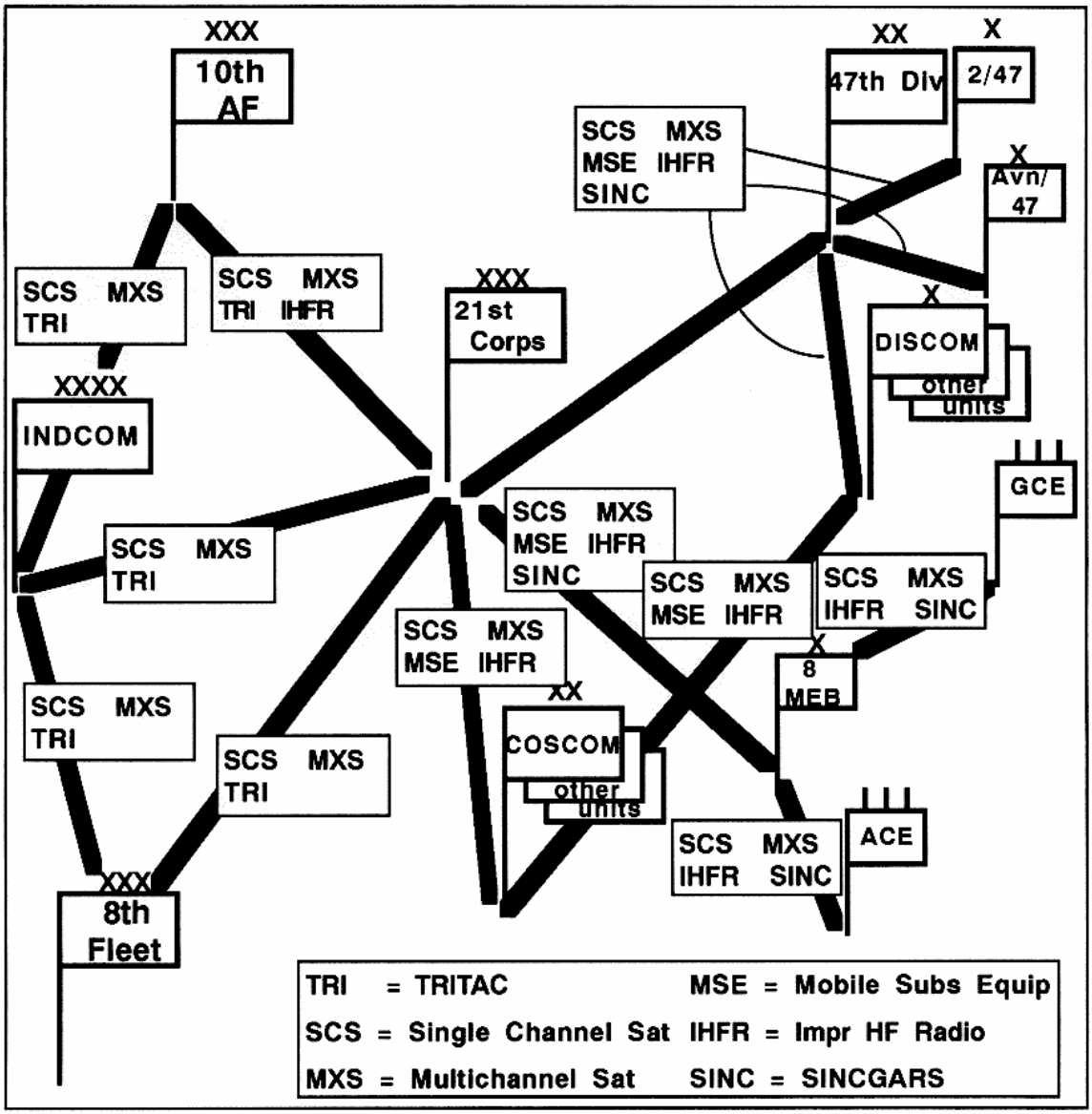

Figure 21. Using Existing Equipment to the Fullest

*This chart is adapted from "Five Lessons in Command and Control of Joint Force Operations", op cit. It does not purport to represent systems usage in Desert Shield.

While a great deal can be accomplished using this option, the system remains largely point-to-point and switched. This requires continuous determination of "need-lines" -- which describe "who needs to talk to whom" -- and establishing the switching to meet those needs. This inhibits the timely common appreciation of the situation so essential to mission-oriented command responsiveness.

A second option would be to move to a concept of free and open information flow.

Option: Free and Open Information Flow*

Free and open information flow means that information flow among all elements of the force -- whether organic, attached, in opcon, or in support, and regardless of function or Service -- is open, free, and uninhibited by any concern other than effectiveness in the common mission and denying information to, or misleading, the enemy. No guiding principle other than free and open information flow will permit the all-Service forces of a command to operate together at full effectiveness as a team.

Technology now available permits a high degree of free and open information flow in a multiservice force. It can produce a system of theater command and control deep down into subordinate command and "warfare system" echelons. This theater-wide C2 system can be called JFIDS, for Joint Forces Information Distribution System. Its basic features:

- All battle participants -- air, air/land, and sea -- share a high-quality picture of the situation. Specifically, each battle participant has as timely, accurate, common, complete, and easy-to-understand portrayal as is possible to achieve, of that part of the full battle picture that is germane to his situation.

- The picture seen by each participant at every moment is consistent with those of all the others. Battle participants quickly receive information that is germane to their situation, but are not burdened with unnecessary information.

- The command's forces have, in effect, a continuously updated "bulletin board in the sky." Those in the best position to know post on that bulletin board information relevant to their commands or command centers; all others can read from that bulletin board when they choose to do so, and with minimum restriction. JFIDS is thus a "receiver-oriented" system; an individual battle participant can get available information simply by tuning for it.

- JFIDS is nodeless, receiver- (not sender-) oriented, reliable, survivable, jam-proof, and secure. It keeps C2 system integrity in the face of powerful countermeasures.

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*This section is adapted from John H. Cushman, "Command and Control of Joint Forces," Military Review, July 1990, p. 25.

Figure 22 shows the technical concept.

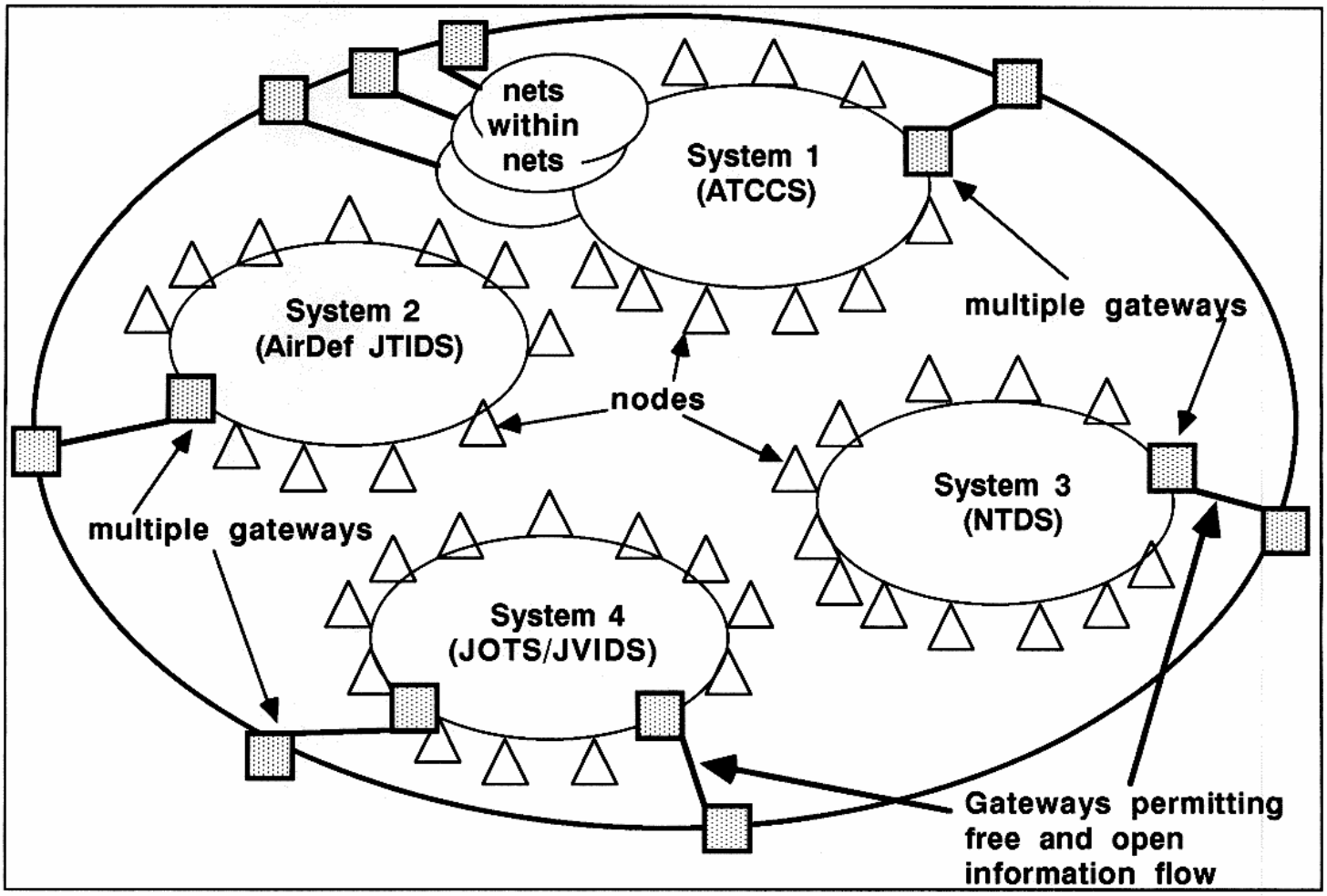

Figure 22. Joint Forces Information Distribution System (JFIDS)*

This option, namely to create a JFIDS, is not available if the aim is to prepare the Desert/ Peninsula Shield force to go war within months. It may be however a worthy long term objective, achieveable far more rapidly if USCENTCOM decides that it is the thing to do for the future and undertakes to mobilize Department of Defense resources behind it while the command is in the field, and if CINCENT and the Department of Defense are willing to use the Desert Shield force as a test bed.

*ATCCS is the Army's Tactical Command and Control System. JTIDS is the time-division multiple-access Joint Tactical Information Distribution System, being built primarily for all-Service air defense; it is a component of ATCCS. NTDS is the Navy's Tactical Data System; it serves most naval warfare areas and is evolving in the direction of JTIDS. JOTS (Joint Operational Tactical System) was developed for the fleet; since the mid-1980s JOTS I and II have come to serve theater CINCs and the JCS. JVIDS (Joint Visually Integrated Display System) is a JCS-approved message, data base management, and graphics display system; it is now combined with JOTS. JOTS/JVIDS has recently come under Navy management.

Option: Controlled High Priority C3 Evolution in Place

However, "test bed" has a worrisome ring. General Schwarzkopf's overriding concern is immediate readiness for war. He no doubt takes a jaundiced view of technical people coming into his command offering sure-fire ways to improve the force eventually, given money and time.

On the other hand, if certain things can be done quickly with technology, short-term, it would seem prudent in the interest of readiness to do the most important of them. Certainly the Services, which provide the forces, can mobilize their resources on their own initiative and with CINCCENT's permission can make immediate and vital in-theater improvements.

This third option would combine the first two options in a hard-headed, focused, Desert Shield program of "C3 systems evolution in place." Its key features:

- A small operational requirements cell in theater, located alongside the operational staff, observing it, but not interfering with it.
- A colocated small technical requirements cell, as linkage between operational requirements and the technical provider. These two cells look at everything through the eyes of the commander.
- A joint "C3 evolution in place" program office -- Stateside, with money, responsive at a high level to an authority in DoD, and with a small liaison team in country. The PM's instuctions are to cut through the bureaucratic processes and give the field commander what he wants, fast.
- Backing up the PM, a systems integrating prime contractor of established reputation for quality.
- A short list of important things to do, arrived at by the CINC after analysis and discussion. Example: "Give me in eight weeks a netted intelligence system in which commanders to brigade and regimental level can get both spot reports and estimates as soon as they are generated, whatever the source."

This option, although risky without a talented management team, could place CINCCENT in the driver's seat as establisher of high priority user requirements with a responsive, energetic, resourceful technical provider who has tasking and funding flexibility, all aimed at rapidly and substantively improving the Desert/Peninsula Shield force's readiness for war. But it might be better to rely on the motivated Services to provide for their own forces and to use this option only for priority cross-Service and theater-level requirements.

Chapter X. Training the Force, and Options

The fourth imperative is to train the force effectively for battle. In this, probably all too short, period between deployment and employment nothing could be more important.

Training has two dimensions. One is training at the brigade and below. Such training requires only time, training areas, ammunition, and command ingenuity; we do not address it. The other dimension is training at division and higher. Because field exercises at this level find it hard to engage intelligence, EW, air defense, logistics, tactical air and so on, against an enemy with the same array of capabilities, and because division level and higher exercises often use inefficiently the time of battalions and companies, this level of training is often done best with what the British call a "tactical exercise without troops" (TEWT) and we can call warfare simulation.

Warfare Simulation

In the 1800's, the Prussian Army invented the "kriegspiel." A century later, after his May 1940 action commanding the German XIX Corps as it crossed the Meuse in battle, General Heinz Guderian wrote:

> In view of the very short time at our disposal, we were forced to take the orders used in the war games at Koblenz from our files and, after changing the dates and times, issue these as the orders for the attack. They were perfectly fitted to the reality of the situation... The divisions [then] issued orders to their unit commanders which began: "Attack in accordance with map exercise carried out on.... "*

General Schwarzkopf can cite a like experience. On August 4, 1990, one week after completing a command-wide wargame in which with a certain clairvoyance he had assumed an Iraqi attack southward through Kuwait, he was called upon by the President to describe how his command might cope with the real thing.

General Schwarzkopf had an advantage over General Guderian; his exercise was computer supported. It used JESS (Joint Exercise Support System).**

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*Heinz Guderian, Panzer Leader, (London, M. Joseph, 1952) p. 476.

**It is not certain that computers always help wargames. A poet has written that...

...If you take a flat map
And move wooden blocks upon it strategically,
The thing looks well, the blocks behave as they should.
The science of war is moving live men like blocks.
And getting the blocks into place at a fixed moment.
But it takes time to mold your men into blocks
And flat maps turn into country where creeks and gullies
Hamper your wooden squares. They stick in the brush,
They are tired and rest, they straggle after ripe blackberries,
And you cannot lift them up in your hand and move them...
It is all so clear in the maps, so clear in the mind,
But the orders are slow, the men in the blocks are slow
To move, when they start they take too long on the way--
The General loses his stars and the block-men die
In unstrategic defiance of martial law
Because still used to just being men, not block parts.

Stephen Vincent Benet, John Brown`s Body, (Farrar & Rinehard, New York, 1927), p. 82.

JESS is an example of what can be done today in warfare simulation suitable for divisions and corps. At workstations, computer-assisted "player/controllers" represent to brigades, in the language of combat over real or well-simulated communications, what is happening with their units as reported on video screens and in printouts. The combat and logistics outcomes are generated by a main-frame computer from inputs by Blue and OPFOR (opposing force) controllers at their terminals.

The Army's Battle Command Training Program (BCTP) uses JESS extensively to exercise corps and divisions against a "world class OPFOR." CENTCOM has used JESS for exercising Marine and Army formations in a theater-level context, but many Air Force officers consider it inadequate for theater air warfare. The Navy uses its own ENWGS (enhanced naval wargame system) for operations at sea.

General John R. Galvin, Supreme Commander Allied Forces Europe, has with the support of the Defense Advanced Research Projects Agency (DARPA) developed and used a computer-assisted simulation known as Distributed Warfare Simulation (DWS) to exercise Allied Command Europe's chain of command from corps upwards. DARPA is supporting the further improvement of DWS in Europe.

Before JESS, the Army used simple board games such as First Battle or War Eagle with their rudimentary methods like rolling the dice to determine outcomes. Units used these to good effect*. Their advantage is that they are easy to install and easy for the troops to understand; one disadvantage is that they use large numbers of controllers, which troops of other units must provide.

The Joint Warfare Center at Hurlburt Field, Florida, is a JCS-directed activity which defines requirements for all-Service warfare simulations. One example of a new wargame 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 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.

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*I can attest to the value of board games at division and corps level. I used them in 1976-78, exercising three ROK corps, one ROK marine brigade, and the 2d U.S. Infantry Division of I Corps (ROK/US) Group which I then commanded, checking out our plans for the defense of the Western Sector of the DMZ and the approaches to Seoul. Involving a realistic "enemy" attacking under its own commanders and seeking to win, these games were invaluable in providing insights and practical experience for my commanders in force employment, in logistics, and in achieving mutual understanding of how to use tactical air.

While this vision of the ultimate ADS is too long-range to put into place for the units in Desert Shield, some of its underlying technology may be of value in contributing improved battlefield visualization to JESS-like warfare simulation and to command and control decision support tools as well. And perhaps General Galvin's DWS has features useful to General Schwarzkopf in his present situation.

In June 1988 a Defense Science Board Task Force on Computer Applications to Training and Wargaming recommended to the Chairman, JCS:

> Make joint simulations interoperable. Internet Service, college, training center, and joint simulations...; make the internetted simulations distributed, using one standard DoD communication protocol; create a shared library of data descriptions.*

Work by DARPA is in progress to achieve this goal. Figure 23 portrays what standard protocols now under development could eventually achieve.

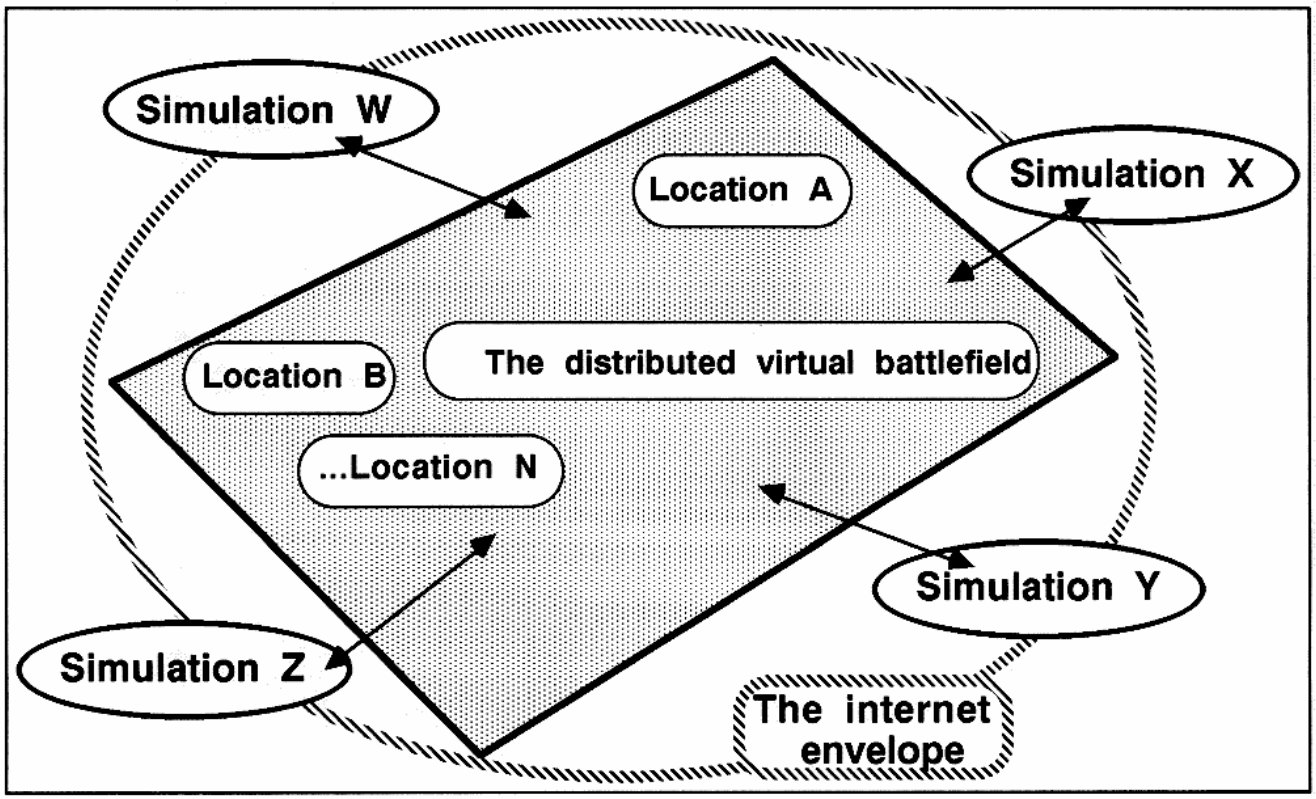


Figure 23. Distributed Simulations for Multiservice Exercise Support

If Desert Shield forces remain in place for many months, it might be possible to apply this concept to combining two or more of JESS, ENWGS, DWS, ADS, and the like in a working tool for commanders' and staffs' exercise support.

*Report of the Defense Science Board Task Force on Computer Applications to Training and Wargaming (Office of the Under Secretary of Defense for Acquisition, Washington, 1988) p. 2.

Options for Warfare Simulation at Higher Echelons

Realistic warfare simulations provide the common perception of the situation, common understanding of the mission, common understanding of how to operate, and teamwork through experience which leads to battle mastery. What are the options in Desert Shield?

One option is to do without board games, JESS, DWS, SIMNET-style ADS, or anything else and to rely on map exercises, commanders' seminars and face-to-face discussions to gain battle mastery. This option has much to commend it; it will be an effort even to set up a board-based wargame. And as they say about a hanging, the imminence of combat "concentrates the mind wonderfully;" map exercises and commanders' seminars may be enough.

Another option would be to do what we did in Korea in 1976-78, namely to set up one or more facilities for simple division and corps and eventually multi-corps level board games. Time and resources being short, this may not be a good option (although such a facility could be used for the seminars and map exercises of the first option above). If adopted, it is likely that one or two sites, properly scheduled, would suffice for exercising all of the forces' US and allied divisions and the corps/MEF.

Another option would be to establish one or more BCTP-style facilities, using JESS or something like it, to stay in the desert as long as the troops are there. This could be contractor supported; and its OPFOR could be played at Fort Leavenworth, just as for the current BCTP program. This option could include battlefield visualization using ADS technology, for improved understanding. If the outlook for Desert Shield forces involves a long stay, this option has substantial appeal.

A final option might be to go all out for a long range program which would no doubt extend long after the conflict over Kuwait is resolved. Although this option is not likely to produce anything usable in the next year or more, it would place CINCCENT in the driver's seat as establisher of high priority user simulation requirements and could set up a responsive technical provider who has tasking and funding flexibility.

Chapter XI. Implications, and Conclusions

Command and control of theater war is a seamless web involving four levels of direction. Repeating Figure 1:

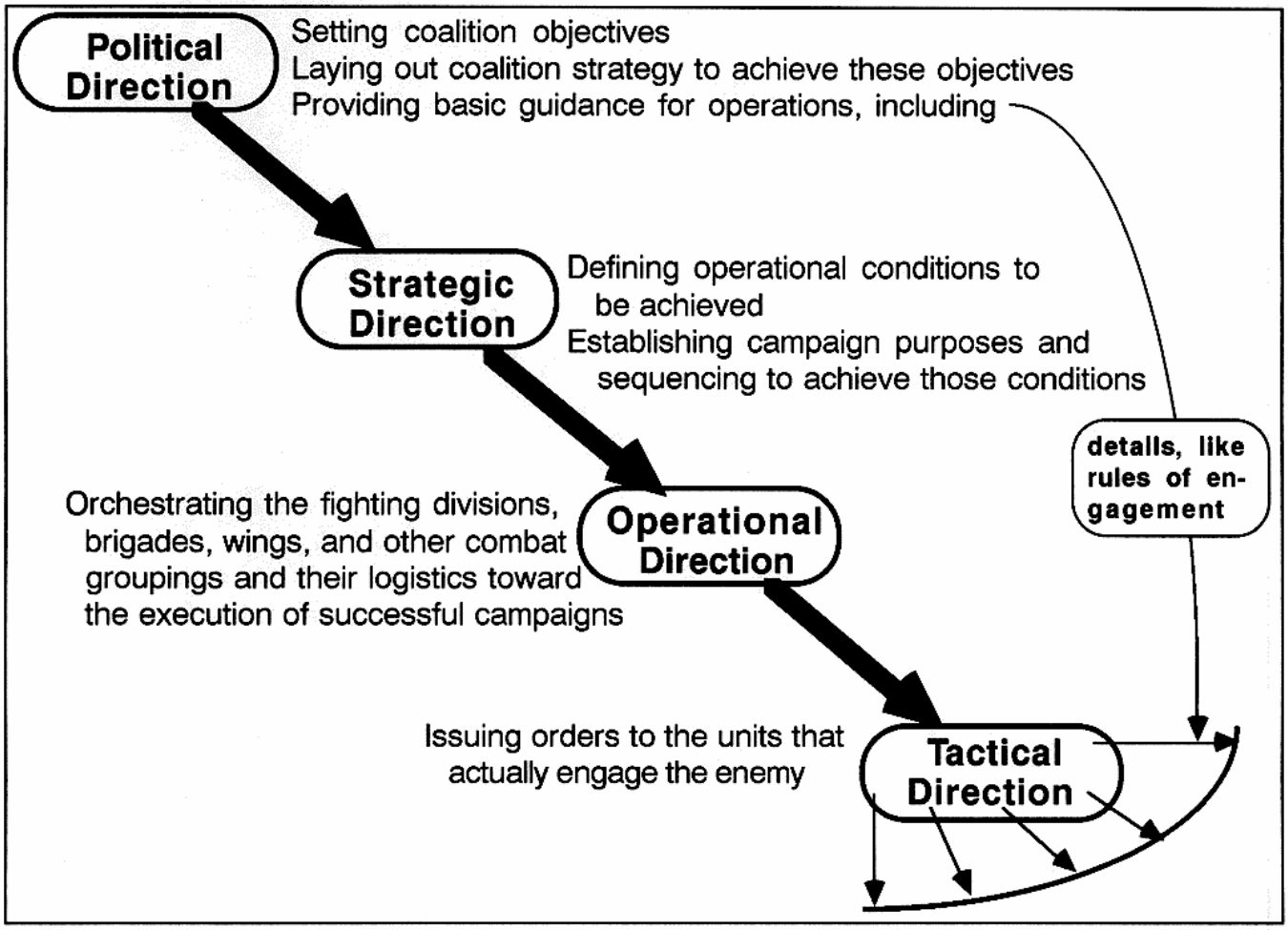


Figure 24. The Chain of War's Direction

The content of the first two links in this chain, political and strategic direction, is now being formed, for good or ill. The forces for the last two links are moving into place, their structure and operational methods still evolving.

If and when the time comes for the full apparatus to engage the Iraqi military machine in war, there will be only one chance to do it right. The implications are clear: Use the tools that are available and get on with achieving as close to perfection as humans can attain. This can be done; the force is not foreordained to do poorly.

Goldwater-Nichols lays two responsibilities on General Schwarzkopf. One is mission performance:

(1) The commander of a combatant command is responsible to the President and to the Secretary of Defense for the performance of missions assigned to that command by the President or by the Secretary of Defense with the approval of the President.

The other is command preparedness:

(2) Subject to the direction of the President, the commander of a combatant command--

(A) performs his duties under the authority, direction, and control of the Secretary of Defense; and

(B) is directly responsible to the Secretary for the preparedness of the command to carry out missions assigned to the command.*

Perceiving that the Department of Defense was unduly failure-prone, the lawmakers made explicit the second of these responsibilities: preparedness. They wanted to make clear who was responsible for ensuring operational success and accountable for operational failure: namely the Secretary of Defense, responsible to the President, and his subordinate CINCs. And they gave the Secretary of Defense and CINCs the authority they required.

For whatever multinational force General Schwarzkopf might command, statutes do not establish accountability or responsibility; these exist morally nonetheless -- both to prepare the force and to employ it effectively.

*Public Law 99-433--October 1, 1986, Goldwater-Nichols Department of Defense Reorganization Act of 1986, Section 164 (b) Responsibilities of Combatant Commanders. Emphasis is supplied.

Appendix

Command and Control in the Mideast Coalition, February 1991

Annex 1, The Forces of Desert and Peninsular Shield

Allied Forces

According to The New York Times, Sunday, October 21, 1990, page E-2, these nations, other than the United States, had announced or planned deployments in or around the Persian Gulf:

Britain: one armored brigade, 58 aircraft, and 12 ships.

France: one infantry regiment, one helicopter regiment, one armored regiment, more than 75 aircraft, and 14 ships including an aircraft carrier.

Saudi Arabia: four mechanized brigades, two armored brigades, one airborne brigade, 180 aircraft, and 12 ships.

Syria: one armored division.

Egypt: 14,000 troops [Army Times, October 22, 1990, page 14, credits Egypt with one armored and one mechanized division].

Pakistan: 5,000 troops.

Morocco: 2,000 troops, possibly rising to 7,000.

Bangladesh: 2,000 troops.

Italy: four ships, plus eight aircraft.

Canada: three ships, plus 18 aircraft.

Australia: three ships.

Belgium: three ships.

Netherlands: three ships, plus 18 aircraft.

Spain: three ships.

USSR: two ships.

Denmark, Greece, Norway, Portugal: one ship each.

United States Forces

The New York Times, Saturday, November 10, 1990, page 6, described the following US forces "in place" in the Gulf, or "to be deployed" according to the President's and Secretary of Defense's announcements of November 8, 1990:

	In Place	To be Deployed
US Army	82d Airborne Division 24th Mech Infantry Division 101st Airborne Division First Cavalry Division 197th Mech Infantry Brigade 3d Armored Cavalry Regt 11th Air Def Artillery Brigade III Corps Artillery 12th Aviation Brigade 1st Corps Support Command	First Infantry Division (Fort Riley, KS) First Armored Division (Germany) Third Armored Division (Germany) Second Armd Cavalry Regt (Germany) 2d Corps Support Command (Germany) Hqs, VII Corps (Germany)
US Navy	Joint Task Force Middle East (10 combatants named) Carrier JF Kennedy and escorts Carrier Saratoga and escorts Carrier Midway and escorts Battleship Wisconsin	Carrier Ranger and escorts Carrier Theodore Roosevelt and escorts Carrier America and escorts Battleship Missouri
US Marine Corps	First Marine Expeditionary Force (1st, 4th, 7th Marine Expeditionary Brigades)	Second Marine Expeditionary Force (including 5th Marine Expeditionary Brigade and one Maritime Prepositioning Force package)
US Air Force:	Nine tactical fighter wings (two F-15; two F-16; two F-4G; one A-10; one F-111; one F-117) One AWACS wing	None described

Annex 2

Interview, General Schwarzkopf, Atlanta Constitution, October 28, 1990

(An extract from the Atlanta Constitution, October 28, 1990, Page 1)

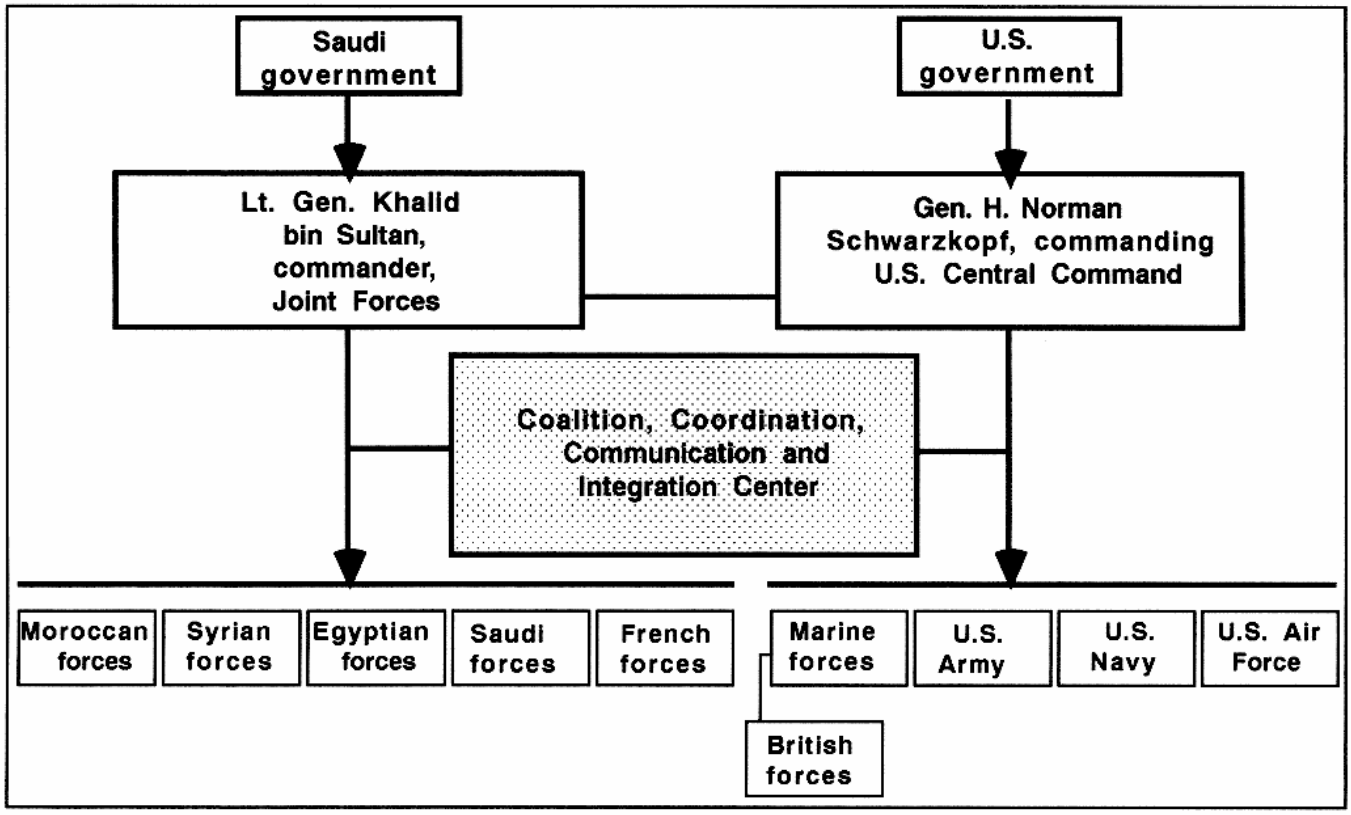
U.S. Chief in Gulf Asks for Patience if War Breaks Out

by Joseph Albright

Journal-Constitution Correspondent

CENTRAL COMMAND HEADQUARTERS, Saudi Arabia -- (beginning fifth paragraph of the story) ...The top American general in Saudi Arabia disclosed that he and the top Saudi commander, Lt. Gen. Prince Khalid bin Sultan, have now agreed on a "very, very comprehensive, integrated defense plan" for pulling together the 340,000 allied servicemen and women arrayed against Iraq.

General Schwarzkopf sketched out on a reporter's notebook his organization chart that shows how the top commanders of the American, French, British, Arab, and other forces have agreed to fight in what amounts to a single, loose-jointed harness. (Sketch from newspaper is copied below exactly as it appeared)



General Schwartzkopf said he and General Khalid meet almost every day to decide overall military strategy and approve plans developed by their respective planning officers....

He said that, one level below them, moment-to-moment coordination is carried out through a joint Saudi-American operations center known as "the C3IC" (pronounced See-Cubed Eye See).

C3IC is short for the Coalition, Coordination, Communication and Integration Center. It is a top-secret Saudi-American facility near Central Command headquarters where operations officers, planners, and intelligence officers work in shifts around the clock.

The C3IC is managed jointly by U.S. Army Maj. Gen. Paul R. Schwartz, who reports to General Schwarzkopf, and Saudi Brig. Gen. Abdullah Batil Harbi, who reports to General Khalid.

General Schwarzkopf gave this description of how the C3IC operates.

"Let's say for some reason we got an early warning report that it looked like the Iraqis were getting ready to fire Scud missiles. That information would go right into the C3IC. And the C3IC would make sure that that information was distributed to every unit we have out there in the field."

(end of extract)

Annex 3, Abbreviations and Acronyms

aaslt	air assault
AAV	assault amphibian vehicle
abn	airborne
ACE	air combat element
ACU	area common user
ADA	air defense artillery
admin	administration
ADS	Advanced Distributed Simulation
AEF	American Expeditionary Force
AF	air force
AH-64	attack helicopter
AI	air interdiction
air def	air defense
ALO	air liaison officer
amphib asslt	amphibious assault
anglico	air naval gunfire liaison company
Apache	AH-64
ARCENT	US Army component of US Central Command
arty	artillery
Aslt Hel Bn	assault helicopter battalion
atk hcptr	attack helicopter
Atk Hel Bn	attack helicopter battalion
ASOC	air support operations center
atch	attached
AW	air warfare
AWACS	airborne warning and control system
BAI	battlefield air interdiction
BCTP	Battle Command Training Program
bde	brigade
bn	battalion
BSSG	brigade service support group
btry	battery
C2	command and control
C2/C2CM	command and control/command and control countermeasures
C3	command, control, and communications
CAS	close air support
cbt engr	combat engineer

cdr	commander
CENTAF	US Air Force component of US Central Command
CG	commanding general
CFC	Combined Forces Command
CH-47	medium cargo helicopter
CINC	Commander-in-Chief
CINCCENT	Commander-in-Chief, US Central Command
CINC CFC	Commander-in-Chief, ROK/US Combined Forces Command
CINCPAC	Commander-in-Chief, US Pacific Command
CINCUNC	Commander-in-Chief, United Nations Command
CNR	combat net radio
co	company
constr	construction
COSCOM	corps support command
CP	command post
CSSE	combat service support element
DARPA	Defense Advanced Research Projects Agency
DCA	defensive counter air
div	division
DoD	Department of Defense
DSB	Defense Science Board
EA-6B	electronic warfare aircraft
ENWGS	enhanced naval wargame system
EW	electronic warfare
FA	field artillery
F/A-18	fighter/attack aircraft
FA/MLRS	field artillery/multiple-launch rocket system
FM	frequency modulated, or field manual depending on context
GCE	ground combat element
Gp	group
HMA	USMC attack helicopter squadron
HMH	USMC heavy lift helicopter squadron
HMM	USMC medium lift helicopter squadron
hqs	headquarters
IHFR	Improved High Frequency Radio
inf	infantry
intel	intelligence
JCS	Joint Chiefs of Staff
JCS Pub	Joint Chiefs of Staff Publication
JESS	Joint Exercise Support System

JFACC	joint force air component commander
JFIDS	Joint Forces Information Distribution System
KC-10	aerial refueling & transport aircraft
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
LOC	line(s) of communication
lt armd inf	light armored infantry
MAG	Marine Aircraft Group
MAGTF	Marine Air-Ground Task Force
maint	maintenance
MARCENT	US Marine Corps component of US Central Command
Med Hel Bn	medium helicopter battalion
MEB	Marine Expeditionary Brigade
med	medical, or medium depending on context
MEF	Marine Expeditionary Force
MLRS	multiple-launch rocket system
MND	Minister of National Defense
MPF	Maritime prepositioning force
MSE	mobile subscriber equipment
mtr trans (MT)	motor transport
NAC	North Atlantic Council
NAVCENT	US Navy component of US Central Command
NATO	North Atlantic Treaty Organization
NC Bn	naval construction battalion
NSC	National Security Council
OA-4A	high speed observation aircraft
obst	obstacle
OCA	offensive counter air
opcon	cperational control
OPFOR	opposing force
OV-10	slow flying observation aircraft
PM	program manager
RAF	Royal Air Force
recon	reconnaissance
regt	regiment
rein	reinforced
RF-4B	photo reconnaissance aircraft
RLT	regimental landing team

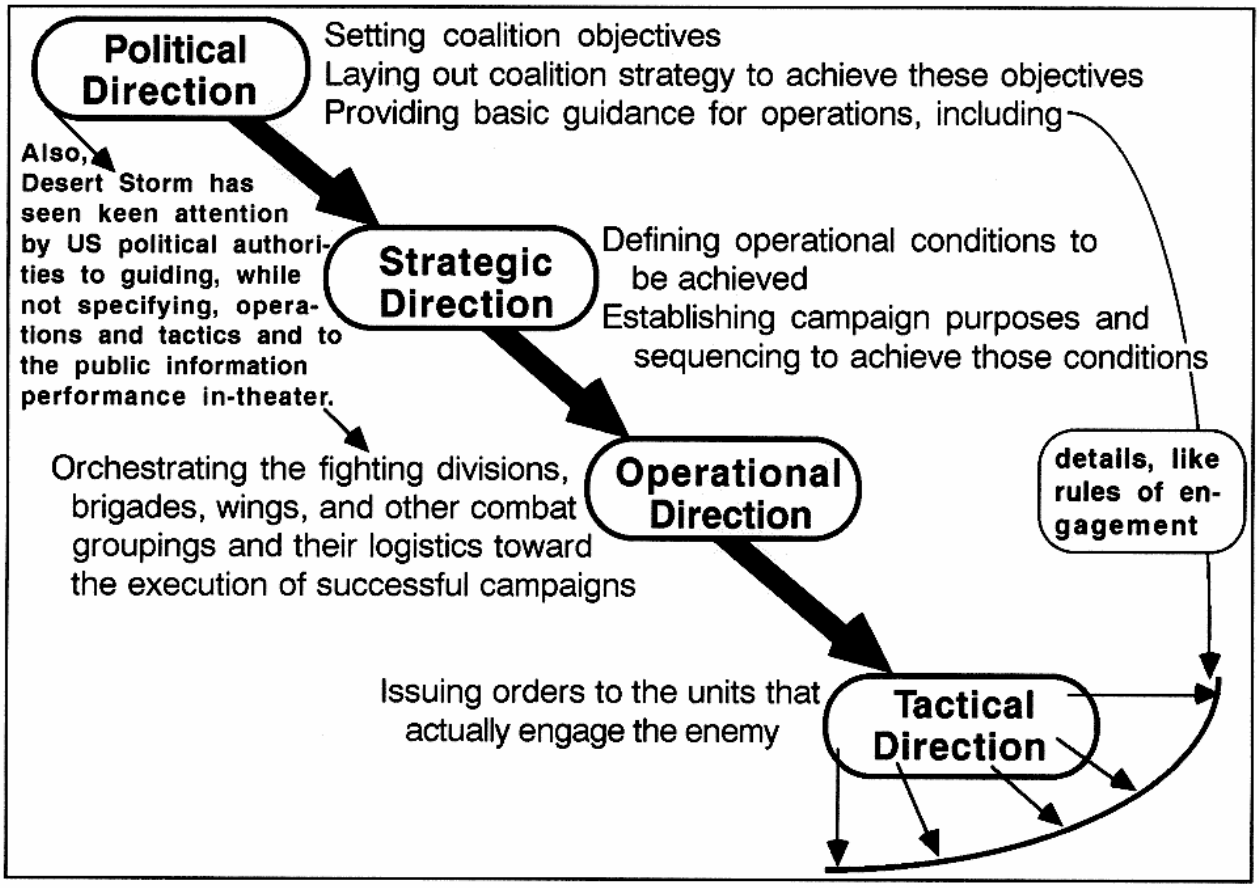
ROK	Republic of Korea
ROK/US	Republic of Korea/United States
RVN	Republic of Vietnam
SEAL	sea-air-land team (US Navy special operations forces)
SecDef	Secretary of Defense
sqdn	squadron
SIMNET	Simulation Networking (a DARPA program)
SOCCENT	US Special Operations Command component of US Central Command
SOF	special operations forces
sp opns (spl opns)	special operations
spt	support
TACP	tactical air control party
TF	task force
tk	tank
TRITAC	Tri-serviceTactical Communications Agency/Program depending on context
UN	United Nations
US	United States
USA	United States of America, or United States Army depending on context
USAF	United States Air Force
USMC	United States Marine Corps
USN	United States Navy
USSR	Union of Soviet Socialist Republics
VHF	very high frequency
VMA	USMC attack squadron
VMFA	USMC fighter/attack squadron
VNAF	Republic of Vietnam Air Force
VNN	Republic of Vietnam Navy

Command and Control in the Mideast Coalition

Lieutenant General John H. Cushman, U.S. Army (Retired)

Writing about command and control for the Mideast coalition while the war still unfolds and before major ground action has begun if such is to be -- and without any inside knowledge whatever -- is risky, but...

Direction (command and control) of a coalition military force, as for a single-nation force, takes place at four interlocking levels: political, strategic, operational, and tactical.



The Chain of War's Command and Control

From the outset, the challenge to the Mideast coalition has been, if war should come, to achieve superior performance at all four of these levels, from top left to lower right. The coalition and its members are given only one opportunity to do it right.

Political/Strategic Direction

Political/strategic direction is the product of a nation's, or coalition's, highest political and military authorities working in concert, with leadership in political guidance being the realm of high political authorities and strategic direction being the area of expertise of

high military authorities. A theater commander in chief joins the high military authorities in formulating strategic direction, while he concurrently considers and carries out his in-theater strategic direction.

In that United Nations Security Council resolutions authorize its members' actions, the Mideast coalition resembles that of the Korean War. But there are differences. In 1950 the Soviet Union was boycotting Security Council meetings; today it is a US partner. In 1950 the Security Council provided for a single US-led UN Command; today there is no such structure. In 1950, US forces went to war immediately and unprepared; this time America and its allies had more than five months for their air and sea forces to get ready to fight, and more than six months for their ground forces. And in 1990 the scene is the Middle East, complicating the political/strategic equation by a factor of ten.

Quickly after Iraq's seizure of Kuwait, the Security Council defined the objectives of the emerging coalition: Iraqi withdrawal from Kuwait; restoration of Kuwait's former regime; security of Saudi Arabia from Iraqi attack; and release of the people whom the Iraqis held against their will, since achieved. Beyond calling immediately for an embargo enforced by UN members' military action, and four months later authorizing members to use "all necessary means" to force Iraqi compliance with the UN objectives, the Security Council has provided no political or strategic direction. As the coalition's leader and committing by far the greatest share of military might, the United States, in close contact with other key nations and with their evident consent, has been the moving force and the de facto drafter and coordinator of political/strategic direction.

The classic February 1944 directive by the Combined Chiefs of Staff to General Eisenhower for the invasion of Europe, reproduced below, might give an idea of the form of that direction. The conjectured words to General Schwarzkopf, CINCCENT,[1] in italics paragraph by paragraph, might give an idea of its content.

1. [Combined Chiefs of Staff to Eisenhower] You are hereby designated as Supreme Allied Commander of the forces placed under your orders for operations for liberation of Europe from Germans. Your title will be Supreme Commander Allied Expeditionary Force.

[Chairman, JCS, for the US Secretary of Defense, to Schwarzkopf] In your capacity as Commander in Chief, United States Central Command, and with the agreement of all other members of the United Nations coalition, you are designated as the primary coordinator for the military operations of the United Nations coalition forces in and near Saudi Arabia responsive to Iraq's invasion of Kuwait.

[1] CINCCENT means Commander in Chief, US Central Command, or CENTCOM.

2. Task. You will enter the continent of Europe and, in conjuction with the other United Nations, undertake operations aimed at the heart of Germany and the destruction of her armed forces. The date for entering the Continent is the month of May, 1944. After adequate channel ports have been secured, exploitation will be directed toward securing an area that will facilitate both ground and air operations against the enemy.

Task. When directed by the Secretary of Defense, you will undertake and coordinate operations aimed at the destruction of Iraqi armed forces and the liberation of Kuwait. In executing this task, you are authorized to conduct, and to coordinate the conduct of, sea operations in and from designated waters, air operations throughout Kuwait and Iraq, and land operations in Kuwait and into Iraq as necessary to recover and defend Kuwait and to destroy such Iraqi forces as immediately threaten Kuwait's territory.

3. Notwithstanding the target date above you will be prepared at any time to take immediate advantage of favorable circumstances, such as withdrawal by the enemy on your front, to effect a reentry into the Continent with such forces as you have available at the time; a general plan for this operation when approved will be furnished for your assistance.

Pending authority to execute the above task you will defend and coordinate the defense of the territory of Saudi Arabia. Should Iraq forces attack into Saudi Arabia you are authorized to conduct and to coordinate the conduct of defensive air, land, and sea operations, to include hot pursuit over Iraq's territory.

4. Command. You are responsible to the Combined Chiefs of Staff and will exercise command generally in accordance with the diagram at Appendix. Direct communication with the United States and British Chiefs of Staff is authorized in the interest of facilitating your operations and for arranging necessary logistics.

You are responsible to the Secretary of Defense through the Chairman, Joint Chiefs of Staff. Under the provision of Joint Publication 1-01,Unified Action Armed Forces, you will have combatant command of all assigned United States forces. The governments of the United Kingdom [and others as named] have agreed that their forces present will be under your operational control. Forces of Saudi Arabia [and others as named] will cooperate according to arrangements for coordination worked out by you with each national commander. Direct communication with national representatives of nations in the United Nations coalition force is authorized in the interest of facilitating operations and for arranging necessary logistics.

5. Logistics. In the United Kingdom the responsibility for logistics organization, concentration, movement, and supply of forces to meet the requirements of your plan will rest with British Service Ministries so far as British Forces are concerned. So far as United States Forces are concerned, this responsibility will rest with the United

States War and Navy Departments. You will be responsible for the coordination of logistical arrangements on the Continent. You will also be responsible for coordinating the requirements of British and United States forces under your command.

The responsibility for logistics support of national forces will rest with the respective nations; this can include logistics agreements between nations. You will be responsible for coordinating the logistics requirements and activities of the forces present in the coalition and for bringing to the attention of the Chairman, JCS, logistics deficiencies which will adversely affect your operations.

6. Coordination of operations of other Forces and Agencies. In preparation for your assault on enemy occupied Europe, Sea and Air Forces agencies of sabotage, subversion, and propaganda, acting under a variety of authorities are now in action. You may recommend any variation in these activities which may seem to you to be desirable.

In furtherance of the United Nations' aim of liberating Kuwait, a coordinated program of special operations is now in action. You may recommend any variation in these activities which may seem to you to be desirable.

8. Relationship with Allied Governments -- the re-establishment of Civil Governments and Liberated Allied Territories and the administration of enemy territories. Further instructions will be issued to you on these subjects at a later date.[2]

Instructions for the re-establishment of civil government in Kuwait and for the administration of Iraqi territories taken by your forces will be issued at a later date.

Details like the following, not in the Eisenhower directive, are probably called for today.

Use of nuclear and lethal chemical weapons is not contemplated... Taking into account the need for military effectiveness and the avoidance of unnecessary military casualties, make every effort to limit damage to noncombatants, religious structures, and the civil infrastructure of Kuwait and Iraq.

The aims of your air campaign will be to gain full freedom of air action, to deny Iraq any use of its air and fleet, to destroy Iraq's capabilities to produce nuclear, biological, and chemical weapons, and to greatly reduce its army's ability to fight.

Your land campaign will aim at the destruction of Iraqi forces in and threatening Kuwait and the liberation of Kuwait. You are authorized to permit Iraq to make the first offensive move, which, if made, you will decisively defeat, thereupon taking up

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[2]The directive to General Eisenhower appears in Gordon A. Harrison, Cross-Channel Attack, Office of the Chief of Military History, Department of the Army, Washington, 1950, pp. 457-458. Paragraph 7, Relationship to United Nations Forces in Other Areas, is omitted here.

an offensive which destroys the opposing Iraqi forces and achieves the liberation of Kuwait. You will, however, prepare a land campaign which takes the offensive when directed, in the event Iraq does not attack on land.

One can surmise that the above is roughly the guidance General Schwarzkopf received; that he participated in its formulation; that it was essentially in place by early November; that President Bush's decision at that time to double the size of US forces in Saudi Arabia reflected the Joint Chiefs of Staff's and General Schwarzkopf's judgment as to the forces required to carry it out; that the late November US-led action in the UN Security Council (Secretary Baker in the chair) which set the January 15 deadline for Saddam Hussein to withdraw from Kuwait reflected General Schwarzkopf's thinking as to when the air campaign could start, with the land campaign to begin a month or so later when land reinforcements were fully ready to fight; that meanwhile General Schwarzkopf and his coalition team were developing their in-theater plans; that when the US President directed the plan's execution, key allies having agreed, the coalition force began coordinated operations according to those plans; that from the very first General Schwarzkopf was under no illusion that Arab contingents of the coalition force would come under his operational command; and that he had set about building a framework for operations that would work even under that circumstance.

Operational/Tactical Direction

In modern war, command and control at the operational and tactical levels where the fighting takes place is very much a matter of "command and control systems".[3] Using their respective C2 systems linked with those of others, battle participants throughout the force seek to see the situation, to decide what to do, and to get it done. C2 and its systems are thus critical to a force's collective skill. Skill gets the job done quickly; skill also saves lives. The Mideast force requires the utmost in skill, hence in C2 system quality.

As Clausewitz said, "Everything in war is very simple, but the simplest thing is difficult. The difficulties accumulate and end by producing a kind of friction that is inconceivable unless one has experienced war."[4] Immeasurably more fast moving and technically complex than in Clausewitz' time, war remains the domain of friction -- late information, uncertain information, inaccurate information, orders issued on wrong information, orders not understood, orders not carried out, orders carried out but not at the right time -- and of uncertainties. Amelioration of friction and reduction of uncertainties is what each commander most wants from his C2 system.

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[3]A command and control system is "the facilities, equipment, communications, procedures, and personnel essential to a commander for planning, directing, and controlling operations..." Joint Pub 1-02, Department of Defense Dictionary of Military and Associated Terms, Office of the Chairman, Joint Chiefs of Staff, (Washington,1989) p. 77. "Command and control" is often abreviated as "C2".

[4]Carl von Clausewitz, On War, edited and translated by Michael Howard and Peter Paret (Princeton, Princeton University Press, 1984) p. 119.

The Mideast theater's war is an intricate amalgam of sea, air, and air/land warfare. In principle, land-based air *forces* can engage in each form of warfare (for example, 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 (high altitude air defense in air warfare; forcible entry airborne seizure of an advanced fleet base in sea [maritime] warfare). The Mideast challenge is to combine the three forms of *warfare,* and the three kinds of *forces,* highly effectively in a single context.

Arriving in August at his CENTCOM forward headquarters and judging that Saddam Hussein had missed his chance to attack southward, General Schwarzkopf could infer, if he had not been told, his mission: liberate Kuwait; he could estimate the enemy, impressive indeed; he could see before him the vast area of operations, with its Kuwait focal point; he could calculate the time, force, and logistics factors of the troop flow into the region. His requirement: to plan a theater campaign and to orchestrate its subordinate air, sea, and land campaigns.[5] He faced fundmental decisions on how to organize and direct the US parts, which he commanded, of the emerging coalition force and how to cohere the remainder.

General Schwarzkopf's US forces came to him in "components" -- ARCENT (Third US Army), MARCENT (I Marine Expeditionary Force), NAVCENT (Eighth Fleet), and CENTAF (Ninth Air Force), each with a three-star commander.[6] CINCCENT evidently decided to build his US warfighting team around these four commanders and in so doing to place behind each's effort the full energy and resources of his Service. Over these components he wielded powerful new team-building authorities, given by law in 1986. Among them: "...authoritative direction over all aspects of military operations... prescribing the chain of command... organizing [subordinate] commands and forces as he considers necessary... employing forces as he considers necessary... assigning command functions to subordinate commanders..." and more.[7] General Schwarzkopf was able to pull together his US forces as tightly as he wished. Owning by far the largest coalition contingent, he could then persuasively suggest that other nations' smaller contingents should join his team in the interest of common mission accomplishment.

Air warfare, simple to summarize but complex to carry out well, entails writing each day an air tasking order that spells out what each single or mulltiaircraft mission -- from air

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[5]A campaign plan is a "plan for a series of related military operations aimed to accomplish a common objective, normally within a given time and space." Joint Pub 1-02, p. 60.

[6]ARCENT means Army Forces, MARCENT means Marine Forces, NAVCENT means Navy Forces, and CENTAF means Air Forces of CENTCOM. A fifth component is SOCCENT (the special operations forces of CENTCOM) which is a subunified command created from units of the US Special Operations Command.

[7]Public Law 99-433--October 1, 1986, Goldwater-Nichols Department of Defense Reorganization Act of 1986, Section 164 (c) Command Authority of Combatant Commanders.

refuelers, to defensive fighter cover, to air defense suppression and ground attack -- will do, at what place, and at what minute. The success of Desert Storm's multinational air campaign, stunningly initiated and by all accounts well managed through the first weeks of war, stems directly from Goldwater-Nichols' authorities and General Schwarzkopf's delegating approach. Any US joint force commander can now designate a single air authority, known as the JFACC (for joint force air component commander), for the "planning, coordination, allocation and tasking" of all tactical air in the force[8], regardless of its Service component -- an authority heretofore not available to joint commanders in war. The commander CENTAF (Ninth Air Force), his tactical air control center staffed in part with people of other Services and nations, is CINCCENT's JFACC. Other nations' air forces conform to the common air tasking order. It is in their own interests; through no other way can Saudi and US AWACS (airborne warning and control system) aircraft work together in a single scheme and can other nations' sorties "deconflict" -- get to the right place at the right time without running into other missions.

Sea warfare, while not involving each ship's tasking in detail as for air, entails organizing task forces and task groups and assigning each its missions -- strike, anti-air, anti-surface, naval gunfire, amphibious, and so on -- with cruise missile and tactical air operations coming under the tasking control of the JFACC. As with air, CINCCENT can task Commander NAVCENT (Seventh Fleet) to conduct sea and coastal operations with the US Navy forces he commands and other US forces (such as Marine units and Army helicopter elements on occasion) he has under his operational control, and to coordinate with other nations' sea contingents the coalition's common naval campaign. With operations like the reflagging and escort of Kuwaiti tankers three and four years ago, the US Navy in the Persian Gulf has become adept at coordinating multinational sea operations without operational control of other nations' combatants.

As of this writing major air/land operations are yet to unfold, although surely their components such as force positioning, intelligence, enemy land force attrition, and deception have been under way. Should they start, one can be sure that mission-by-mission JFACC air tasking methods will give way to the decentralized tactical air operations which are essential to successful conduct of modern air/land warfare.

There are in the desert three rough groupings of air/land forces: the US Army's, the US Marine Corps', and all others', to include the British, French, and Arabs. Resembling each other in many ways, each has its own ways of organizing for battle and its own ways of fighting.

The US Army has two corps in the desert. A corps, typically 60 to 100 thousand strong and commanded by a lieutenant general, is made up of three or more divisions plus "corps troops" such as armored cavalry, field artillery, air defense, signal, and service

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[8]Joint Pub 1-02, p. 197.

support. Owning only helicopters in the air, the corps relies primarily on the US Air Force for tactical air support. The Army's "AirLand Battle" thinking visualizes deep, close, and rear corps operations, with close operations including close combat, indirect fire, close air support, attack helicopter movement and fires, forward area air defense, close-in intelligence, obstacles and their clearance, and movement/maneuver -- and with deep operations including deeper intelligence, battlefield air interdiction, distant strikes of artillery and attack helicopters, and far ranging maneuver of airborne, air mobile, and special operations forces. The "basic tenets" of AirLand Battle are "agility, initiative, depth, and synchronization."[9]

Organized, trained, and equipped primarily but not solely for amphibious operations, the Marine Corps' basic formation is the Marine Air-Ground Task Force (MAGTF); this is a task organization under single Marine command structured to accomplish a specific mission. A MAGTF always consists of command, ground combat, aviation combat, and combat service support elements (including Navy support elements). One MAGTF would be a Marine Expeditionary Force (MEF), commanded by a lieutenant general and including a reinforced Marine division, rotary and fixed wing squadrons and detachments of various types, low and medium altitude air defense units, and a force service support group which can sustain lengthy operations ashore. Another is a Marine Expeditionary Brigade (MEB), built around a ground combat element consisting of a regimental landing team. The Marines have deployed six MEBs to Saudi Arabia; these have been "composited" into a single MEF of two divisions, one large air wing, and a sizeable force service support group. Some part of this force is afloat in a position to carry out amphibious operations. The Marines' watchword is "maneuver warfare."[10]

British, French, Saudi, Egyptian, and Syrian divisions and brigades follow pretty much the US Army's organizational pattern. None has its own tactical air, although both the French and British have deployed close support aircraft in the desert.

We can surmise that in October or so General Schwarzkopf conveyed to his three-star US commanders, in words something like this, his thinking on air/land operations:

"Commander Ninth Air Force will be the JFACC and Commander Seventh Fleet will take care of coalition naval operations. I am satisfied that we have those two areas of theater warfare under reasonable control. Now I want to talk about organizing for land, or more accurately 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 with its VII and XVIII Corps of some seven divisions total and its air support. I am not speaking of those parts of MARCENT and

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[9]Field Manual 100-5, Operations (Department of the Army, Washington,1986), p.14.

[10]Fleet Marine Force Manual 1, Warfighting, (Headquarters, US Marine Corps, Washington,1989), p 30..

ARCENT that do rear area tasks, or of ARCENT's Patriot units which the JFACC directs.

"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. 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.

"That means that I have to divide up the air/land battlefield. So I will place I MEF along the East coast where it can work closely with the fleet, and I will place Third Army inland. I MEF, even with its tank battalions equipped with M1A1 tanks provided by the Army, will be short of armor, so I am assigning it a reinforced Army armor brigade. And I am assigning the British 1st Armoured Division to Third Army.

"The Saudi armor and mechanized brigades and the Egyptian and Syrian armor and mechanized divisions and other Arab contingents make up a third land formation. While we are preparing for our air/land offensive, if it should come, the Arab formations will by their own choice be disposed along the Kuwaiti border. When we take up the offensive, I visualize that Arab troops, probably under single Arab command but not under my command, will advance into Kuwait in a sector of their own. In the interim, I am counting on the commanders of I MEF and Third Army to coordinate operations with Arab units in their respective sectors. I served as both an advisor and US battalion commander in Vietnam and know that our best units learned how to do this very well in the absence of unity of command.

"When we take the offensive, I expect I MEF, supported by fleet naval gunfire and amphibious operations, to attack northward into Kuwait; and I expect Third Army to come at the Iraqi forces from the west in an air/land blitzkrieg operation such as the world has not seen since George Patton's time. I MEF will use its 3d Marine Aircraft Wing for tactical air, and Third Army will be supported by the Ninth Air Force (the same numbered air force incidentally that, under Hoyt Vandenberg, supported Patton's Third Army in 1944). JFACC will task 7th Fleet's air to support either I MEF or Third Army, or both. And of course, JFACC, with air supremacy, will direct the air interdiction campaign.

"Functions which cross all air/land sectors -- Arab, I MEF, and Third Army -- such as intelligence, electronic warfare, and logistics will be coordinated at my level. And of course you understand that I have the authority and responsibility to shift any and all

US tactical air (Marine air included) from one sector to another as necessary for mission accomplishment.

"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."

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And that's the best picture I can draw at this writing of command and control in the Mideast coalition. JHC.