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**INTEGRATION OF AIR AND SEA POWER
IN
REGIONAL CRISIS CONTROL**

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OUTLINE

Semester I

A. Preface (4 pages)

I. Introduction (8 pages)

Evolving International Security Environment

- Introduction - A New Way of Doing Business
- A Changing World - Global Security Overview
- Structure of the Study

II. Regional Issues for U.S. Security (59 pages)

- Persian Gulf
- Middle East
- Caribbean/Central America
- Northeast Asia
- Southeast Asia
- Europe
- Indian Ocean Littoral
- Sub-Saharan Africa
- Economic and Other Issues
- Summary - Air/Sea Power Implications

III. Vertical Ladder of Escalation in Regional Crisis (40 pages)

- What is a Crisis?
- Steps in the Vertical Ladder of Escalation
- Other Warfighting Concerns
- Appendix A: Regional Crises 1961-1991 with Air and Sea Power Activity

IV. Air and Sea Power (29 pages)

- What is Air Power? (Historical/Contemporary)
- What is Sea Power? (Historical/Contemporary)
- Navy Concepts of Air/Sea Power
- Air Force Concepts of Air/Sea Power
- Integrated Strike Concept
- Appendix: Navy Carrier Battle Group, Amphibious Readiness Group, Air Force Composite Wing

Semester II

- V. **Integration of Air and Sea Power** (57 pages)
 - How can we best integrate Air and Sea Power?
 - DESERT SHIELD/STORM - High Mix with bases
 - Falklands - Low Mix without bases
 - Techniques of Integration
 - Tactics of Integration

- VI. **Air Sea Battle Concepts** (32 pages + Appendix for Joint Doctrine of 8-10 pages -- forthcoming)
 - Key Concepts
 - Training/Training Plan
 - Scouting/Scouting Plan
 - Targeting/Levels of Target Alerts
 - Striking/Strike Plan
 - Command and Control
 - Integration of Army and Allied Assets
 - Proposed Joint Doctrine for Integrated Strike Forces

- VII. **Integrated Air and Sea Power as Strategic Option** (38 pages)
 - Potential Arenas of Crisis
 - Demonstration = Deterrence
 - Strategic Deployment of Integrated Air and Sea Power

- VIII. **Conclusions and Recommendations** (13 pages)

PREFACE

I began this study as an outgrowth of my experiences in the summer, fall, and winter of 1990 in the Persian Gulf. When Saddam Hussein invaded Kuwait on 2 August 1990, I was executive officer in Aegis Cruiser **Antietam** (CG 54) in the Indian Ocean. We were assigned to the **Independence** Carrier Battle Group on routine patrol north of the Indian Ocean atoll of Diego Garcia. **Antietam** was detached immediately following the invasion and sent at high speed to the Persian Gulf. Shortly after arriving in the vicinity of Bahrain on 6 August, we were assigned duties as antiair warfare commander and electronic warfare coordinator of the Gulf. The primary reason for our immediate assignment to augment the Middle East Force ships was a desire to bring additional Tomahawk missiles, command and control, and air defense to the region. **Independence** and the rest of the Battle Group arrived several days later and took up station just outside the Gulf, while we continued our duties north of Bahrain in the central Persian Gulf.

Throughout the months we spent in the Gulf, I was lucky to be at the maritime center of the rapid build-up of forces and the maritime interception operations that followed. As everyone knows, the United States moved over 500,000 combat troops, 3,000 aircraft, 200 ships, 6 carrier battle groups, and 2 amphibious

readiness groups into the region over the next six months. It was a period in which a great many new procedures and tactical approaches were ironed out -- including, most importantly in my mind, our approach to the integration of air and sea power. The procedures that would eventually set in motion massive land-based air, carrier-based air, tomahawk missile, naval gunfire, and amphibious assault feints were worked out "on the ground" (and "on the water") over the next several months. It was a demanding time.

In the early days of the operation, we were in place to seize and maintain control of the vertical ladder of escalation. Specifically, we were in the region to prevent Saddam Hussein from moving any further south toward Saudi Arabia. In essence, we were tasked to gain air and sea power in the region while the coalition formed, effectively curtailing Saddam Hussein's options for further offensive action. The fundamental tool for doing this, in the early part of Desert Shield/Desert Storm, was a truly joint air and sea force of Navy Carrier Battle Groups, Navy-Marine Corps Amphibious Readiness Groups, and Air Force Fighter-Attack Wings. Much of the integration for the force was worked out from August of 1990 through December 1990, using a combination of some prior doctrine, many new concepts, and a great deal of creativity and common sense. As land forces were gradually increased, our ability to conduct forceful offensive operations and move even further up the vertical ladder of escalation was enhanced, although the air and sea power in place

by December of 1990 could have inflicted an enormous price on Iraq even without the massive coalition armies.

I believe that the future of U.S. military force for the coming decades will be focused on control of regional crisis. I further believe that the best way to seize and maintain control of regional crisis (i.e. the vertical ladder of escalation) is through integrated air and sea power. For reasons that will be developed in depth throughout this work, I believe that truly integrated air and sea power means developing new ways of structuring, organizing, training, deploying, and employing our key air and sea forces -- Navy Carrier Battle Groups, Navy-Marine-Corps Amphibious Readiness Groups, and the relatively new Air Force Composite Wings -- into Integrated Strike Forces. In essence, this study is the result of reflection, study, and analysis of how best to integrate our air and sea power for regional crisis control.

I have had a great deal of help, encouragement, and advice from a wide group of people. Of note, I am grateful for the support of Navy Captains Spence Johnson, Jim Giblin, Larry Eddingfield, Cutler Dawson, Bob Natter, Al Fraser, Bill Center, Al Myers, Lyle Bien, Bill Fallon, Hank Giffin, Tom Marfiak, and Kevin Green -- all of whom have helped me with ideas about sea and air power. I am also grateful for the thoughtful comments of Air Force Colonels "Buzz" Moseley, Mike McConnel, Jim Soligan, Bill Heitzig, Dave Moody, J.J. Jones, Bill Drennen, and Howie Chandler. It goes without saying that any errors of judgement or

fact are mine alone.

Finally, much of this study is speculative and reflective -
- although supported, I hope, by sound reasoning and fact. I
further hope it will serve as a point of departure for minds
better than my own to develop new and creative ways to integrate
air and sea power. I do believe that if the United States is to
maintain a preeminent position in the evolving global environment
at the end of this century and beyond, we must change and adapt
the way we use our forces in crisis. To help in some small way
in that process, if only as part of an ongoing debate, this book
has been written.

I. INTRODUCTION

Air power and sea power will be the most useful instruments of military force available to planners over the coming decade. Why? Because virtually all conflict during the next ten years will be regional in character. In the context of regional crisis, control of the vertical ladder of escalation will be the concern of the political leadership and, therefore, the most critical task facing the military commander and planners. Our strategists must develop a coherent and usable concept for the integrated use of air and sea power, involving U.S. Navy, Marine Corps, and Air Force assets. The powerful synergism that can be achieved by truly integrating air and sea power has yet to be realized, although we learned much about it in the Persian Gulf war. U.S. warfighters and strategists must assess and improve all aspects of military performance in this critical area -- integration of air and sea power in regional crisis control -- in order to face effectively the geostrategic environment over the next decade.

Our military is shrinking, and although we will end up with a high quality end force, it will be a far smaller force than that with which we began this turbulent decade. Quantity has a quality all its own, as Lenin said, and we shall lack quantity, at least relative to today's force. The challenge, therefore,

becomes the ability to use this smaller force in a high quality fashion -- in a word, we must fight smarter. That is what this study is all about. I believe we need new and creative ways to organize, structure, train, deploy, and employ our forces -- especially the critical air and sea power mix that will be the greatest asset we have. We need a new conceptual approach to melding the principle air and sea forces -- Navy Carrier Battle Groups, Navy-Marine Corps Amphibious Readiness Groups, and the developing Air Force Composite Wings. We need to provide the warfighting CINCs with immediately deployable strike packages composed of air and sea forces that have trained and operated together extensively. In short, we need an air sea battle concept centered on an immediately deployable, highly capable, and fully integrated force -- an Integrated Strike Force.

A Changing World

The essential change is the end of the bipolar construct that has dominated the international system for the past forty years. Clearly, "The reunification of Germany, together with the enfeeblement and possible breakup on the Soviet Union, is one of the most abrupt realignments of political, military and economic power in modern history."¹ The international order will evolve from a bipolar structure into a truly multipolar system, with power diffusing toward Western Europe, Japan, and the United States. This will produce a more complex and challenging world, but will offer the United States a great many opportunities for

creative diplomatic, economic, and military action in shaping the international system.

It is important to note, however, that within this multipolar system, only the United States will emerge as a "complete superpower" -- with military, economic, political, and cultural influence felt throughout the world. As a result, it is incumbent on the United States to help chart a stable, positive course in a potentially turbulent emerging world. As General Colin Power, Chairman of the Joint Chiefs of Staff recently commented in an interview, "The United States is clearly the leader of the democratic world now, both the West and East. They look to us because they can trust us They can trust us because of our democratic political system, which seeks no foreign territory, which seeks not to subject anyone else. They look to us because we have an armed force second to none and we have the ability to use that armed force to deal with political problems that arise in a careful way."²

A second major shift in the international system will be a demand for increased democratization and nationalism, and attendant pressures to create new states for various ethnic groups, e.g. the Russian Republics, Croatia, Slovenia, Kurdistan, Baluchistan. Many of these new countries have been formed in the turmoil following the collapse of the Soviet Union. This will create regional instability in a variety of areas, including Eastern Europe, the Soviet Union, much of Africa, and parts of Asia. Indeed, " . . . states are being pressed in different, unpredictable and potentially violent ways by ethnic, religious,

or political groups seeking self-determination in the form of autonomous rights within existing states, their own separate countries, or reunification with homelands across their borders."¹ The role of the United States here will be to encourage a responsible and peaceful move toward democratization, as well as to provide assistance and support where appropriate - while also working for regional stability.

A third major difference facing strategists in the next century will be the increasing influence and power of transnational actors. The United Nations may finally develop into a viable and relevant global force, buoyed by a string of successes in the late 20th century. Multinational corporations and financial institutions, both public and private, will begin to control access and continue to exert significant influence. Other potential transnational actors to be reckoned with include global environmental organizations, human rights groups, major religions, some raw commodity cartels, liberation organizations, crime syndicates, and terrorist groups. The United States should evaluate the many existing and evolving transnational groups and develop a strategy that takes their influence into account in shaping a world order that is responsive to U.S. interests, with particular emphasis on both the United Nations and ad hoc coalitions as necessary.

The increasingly interdependent global economy will be a fourth key element in the international environment of the 21st century. In a world of increasingly sophisticated communications and information processing, many additional complexities will

face strategic economic planners, including world trade issues, currency alignments, international arms trade, global flow of raw materials, and environmental concerns. This will be the most challenging aspect of shaping the international order for the United States, particularly in facing demanding competition in the trade arena.

A fifth potentially dramatic element of the evolving international order will be the diffusion of military power through the proliferation of nuclear, chemical, and biological weapons. Strategists must work on a "two-track" approach here, attempting to curtail proliferation through treaty agreements while recognizing the eventual inevitability of advanced weapons in the hands of irresponsible states. Planners must focus on the development of a non-proliferation regime, while simultaneously working on solutions to potential attacks, including a limited ballistic missile defense system for the United States.

The evolving international system will be far more fluid than that faced by any practicing statesman or strategist serving today. "Change is what makes us bold," said Napoleon. His words could serve as a touchstone for U.S. strategists as we move forward to the evolving international system of the next century.

Structure

In the course of this study, I will first examine the regional context of U.S. national security issues, focusing on eight regions: Europe, the Middle East, the Persian Gulf,

Central America and the Caribbean, the Indian Ocean littoral, Southeast Asia, Northeast Asia, and sub-Saharan Africa. I will also discuss the broad global security trends that emerge from the regional overview. This chapter will serve to illuminate areas in which the U.S. might logically expect some degree of political, economic, and military engagement. The bottom line is an attempt to identify the most likely future arenas of crisis - - which appear to be the Persian Gulf/Mediterranean Middle East, Central America/Caribbean, and East Asia.

In the next chapter, I will begin by attempting to answer the deceptively simple question "What is a Crisis?" -- a question to which there is more than meets the eye. Additionally, I will discuss the steps in a generalized vertical ladder of escalation, which lead from simple presence through permanent seizure of territory. In a fourth chapter, I will then discuss air and sea power as historical concepts and what they currently mean to different institutions. In particular, I will examine both Navy and Air Force concepts of the air/sea power mix, and offer a definition of both air and sea power for the purposes of this study. I will then discuss the utility of an Integrated Strike Force, notionally composed of a Navy Carrier Battle Group, an Amphibious Readiness Group, and an Air Force Composite Wing.

In the fifth chapter, I will discuss the actual integration of air and sea power, drawing on two powerful case studies: the Falklands/Malvinas War and Persian Gulf War, examining them from the perspective of the British and the U.S. respectively. They dramatically illustrate two poles of the air/sea experience. The

Falklands/Malvinas was a conflict in which low-to-medium technology mix was used without significant basing available. The Persian Gulf War, on the other hand, was a conflict with a high technology mix executed with significant basing available. In this chapter, I will examine various techniques (and tactics) of integration.

I will look at general air-sea battle concepts in the sixth chapter, focusing on training, deployment/logistics, scouting, targeting, and striking at the level of operational art. I will also discuss command, control, and communications, as well as potential contributions of the Army and allied forces.

In the seventh chapter, I will deal with integrated air and sea power as a strategic option. In this portion of the study, I will look at several scenarios suggested by analysis in the first and second chapters, attempting to lay out the means for deployment and employment of an integrated air/sea power mix in support of U.S. interests. A final chapter will provide the conclusions of the study, as well as recommendations for some policy changes and subjects for further study.

ENDNOTES

1. Gaddis, John, "Toward the Post-Cold War World," Foreign Affairs 70 (Spring 1991), p. 102.
2. Peter Grier, "The World Through Colin Powell's Eyes," Christian Science Monitor, 11 September 1991, p. 9.
3. Frankel, Glen, "Upheaval in Europe," Baltimore Sun, 10 July 1991, p. 2.

II. REGIONAL ISSUES FOR U.S. SECURITY

In this chapter, we will divide the world into eight regions and examine U.S. security issues in Europe, the Middle East, the Persian Gulf, Central America and the Caribbean, the Indian Ocean littoral, Southeast Asia, Northeast Asia, and sub-Saharan Africa. After looking at general security concerns and U.S. interests in each region, we will use the analysis to support a broader discussion of the global security environment. This initial chapter serves to illuminate the most critical and likely arenas of crisis in which the United States may find itself involved over the coming decade.

Europe

As the President's National Security Strategy of the United States for 1992 opens, "It is Europe more than any other area that has held the key to the global balance in this century, and it is this continent more than any other that is experiencing fundamental change."¹ Three critical developments in Europe will deeply affect the regional security situation: the breakup of the former Soviet Union and the realignment of former Soviet republics into new political, economic, and security arrangements; the withdrawal of United States military forces in the post-Cold War era; and the gradual movement of the Western Europeans toward a more integrated political-economic system.

All of these shifts are creating doubts about the continuing viability of the venerable North Atlantic Treaty Organization.

Obviously, the breakup and enfeeblement of the Soviet Union is the single most important event influencing regional security. It is difficult to predict what will emerge from the ashes of the Soviet empire. Independence for the Ukraine "instantly created a European state of 52 million people with more territory than France and an army larger than Germany's."² The most pressing issue resulting from the dissolution of the former Soviet Union is how to control the 26,000-30,000 nuclear weapons in the hands of four separate republics: Russia, Belarus, Ukraine, and Khazakstan. Beyond the nuclear arsenal, there is an enormous chemical and biological stockpile --- to say nothing of 4 million troops, 7,000 combat aircraft, and well over 1,000 ships and submarines in a professional and well trained Navy.³ Additionally, the opening of former Soviet borders may lead to a massive "brain drain" of thousands of scientists who design and build nuclear weapons.⁴ Such "nuclear mercenaries" could bring a new level of danger to the proliferation problem.⁵ Finally, many major weapons systems -- MIG-31 fighters, T-72 tanks, intelligence systems, warships -- can be purchased for hard cash.⁶ Even the U.S. is buying Russian space and nuclear technology at bargain prices.

Initial speculation about the future of the Soviet Union centered around the creation of a loosely centralized confederation with limited coordination of defense and foreign policy.⁷ The shape of what has come to be called the

"Commonwealth of Independent States" (CIS) is still evolving, and there are many disagreements about military force structure and policy. There is even some discussion of the U.S. military offering advice to the former Soviet Union's military "on how to reorganize shrinking Soviet forces, draft military budgets subject to legislative control, convert weapons factories into commercial businesses, and broaden exchanges on the command and control of nuclear weapons."⁸ The former Soviet defense minister predicted defense cuts of roughly 25 per cent -- although that will still leave a standing army of 3 million troops in Russia alone.⁹ Even sharper cuts are possible, to as few as two million, " . . . as the Army switches to a largely volunteer force."¹⁰ Additionally, the unilateral cuts in U.S. nuclear forces undertaken by the Bush Administration in the fall of 1991 have elicited similar responses from the Soviets, leading to further large reductions in nuclear arsenals in the near term.¹¹

The potential for conflict between former Soviet republics is high. The Central Asian republics, for example, have large Russian minorities (e.g. 11 million ethnic Russians and Ukrainians among 40 million Muslims in the five Asian republics) who may face persecution. Serious conflict between Armenia and Azerbaijan has already occurred. "The Turk is capable of anything," commented the Armenian president of one district in largely Turkic Azerbaijan.¹² He was comparing current persecution of Armenians in Azerbaijan with massacres that occurred in 1915-1918 in the region. Many observers have raised the concern that such scenarios could play themselves out throughout many of the

republics as ethnic groups formerly held in check by centralized Soviet forces are unleashed -- determined to settle with bloodshed their longstanding grudges.¹³ "Central Asia is an ethnic mess. It could become a greater Lebanon, on a huge scale."¹⁴ The destabilization of the entire Asian continent could easily result if such conflicts grew in scope, posing severe international security concerns. Of particular concerns are potential conflicts in Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, and Kirghizia -- as well as Azerbaijan, especially the disputed Nagorno-Karabash region where Armenia and Azerbaijan are embroiled in conflict.

The Russians, after initially throwing their weight behind a fully centralized military, are bowing to the inevitability of as many armies as there are republics -- and are indeed forming a Russian Army, distinct from the military of the CIS.¹⁵ Much controversy concerning control of military equipment within republic borders still exists, as well as a degree of distrust between many of the republics. Ukraine, Belarus, and Azerbaijan have all emphatically laid claim to all military capital stocks within their borders, and several other republics may follow suit.

While the full implications of this critical shift in the European security situation cannot be fully analyzed as yet, it seems likely that a greatly reduced overall threat to U.S. national interests will exist on the mainland of Europe for the foreseeable future. This development should permit the final "green light" for a major withdrawal of U.S. forces from Europe,

perhaps fully realized after a period of stabilization emerges. The armed forces of recently united Germany and the other Western Europeans will be more than sufficient should instability in Eastern Europe (or the Balkans) threaten European peace. Already there are strong indications that Germany intends to flex its considerably strengthened muscle in Europe -- laying down new operational restrictions on allied forces in country and taking the lead in the Yugoslavian crisis.¹⁶

As U.S. forces leave Europe after a stay of some fifty years, it will truly be the end of an era. The real concern will be stability in the republics. As Jean Kirkpatrick recently commented, "The new world order will be forged not in the Persian Gulf, but in the factories, fields, military forces, and political arenas of the former Soviet Union."¹⁷ Her concern is the possibility of the rise of dangerous leaders in the potential chaos of the former Soviet Union. She likens conditions to those that permitted the rise of Hitler and Mussolini -- " . . . inflation, unemployment, scarcity, and disorder after an old empire had dissolved and an entrenched regime had died and before a new democracy had taken root."¹⁸ Another "wild card" will be the armed forces themselves, who may undertake political action. The military has already held a semi-political assembly in Moscow in early 1992, and is pushing forward a "platform" of military officers as candidates in representative assemblies.

One key aspect of the evolving global security environment as it relates to Europe will be the ultimate shape of the North Atlantic Treaty Organization (NATO). With the dissolution of the

single opponent against whom the alliance has been focused for its fifty year history, planners are searching for a relevant mission for NATO. Many changes are in the wind, including an 80 percent cut in NATO's nuclear arsenal.¹⁹ Additionally, a NATO working group has been formed to investigate the possibility for a multinational rapid-reaction force operating from Europe involving forces from current NATO members. Such a force could be division size with fire support from aviation, antiair missile, and air mobile elements, according to U.S. Army General John R. Galvin, NATO's top military commander.²⁰ As General Galvin commented, "NATO's future contingencies might well look much more like the coalition's assistance to the Kurds than anything we have planned for in the past."²¹ Current plans call for the rapid-reaction corps to include troops from all NATO nations, including Italy, Greece, and Turkey -- not merely the "core nations" from Central Europe. The force would be a viable crisis response capability available for a wide variety of regional crisis control missions, from stabilizing restive parts of Eastern Europe to deterring aggression throughout the Third World.

A recent exercise, CERTAIN SHIELD 91, featured a mix of British, German, Dutch, and Belgian troops demonstrating airmobile operations across Germany.²² At a recent meeting of the Conference on Security and Cooperation in Europe, "western foreign ministers called for European states to have the power to intervene in the internal conflicts of Eastern Europe, using the present strife in Yugoslavia and gathering conflicts in the

former Soviet Union to illustrate their concern."²³ U.S. Secretary of Defense Richard Cheney has called for NATO to help newly democratic nations and guard against Iraq-style aggressors."²⁴ There is much to be worked out concerning such a force -- exactly who would compose it and how would it be used -- but the likelihood of such regional-mobile forces seems high.

The specific role of the United States in the European theater is a subject of much discussion. Already, the U.S. is downsizing the number of troops stationed on the continent to well under 200,000 -- as well as closing over 300 bases.²⁵ Given the unsettled situation in the Soviet Union (to say nothing of Eastern Europe and the Balkans), there seems to be a need for a "stabilizing presence," at least for the near future. Some observers, however, argue for a full pull-out. Pat Buchanan, the conservative columnist and Republican presidential candidate, believes that in return for a full Soviet withdrawal from Eastern Europe, the U.S. should " . . . pull out all troops and atomic weapons out of Europe, deed NATO over the Europeans, and reclaim our freedom of action in deciding whether to go back in the event of war."²⁶ Most observers believe that the U.S. troop presence will remain, at least as part of a NATO reaction force, for the foreseeable future.

One interesting European security development that will affect the overall international environment is the possibility of a joint French-German European force, based on an existing Franco-German brigade. The force is tentatively described as "a European corps" and would be a European Community defense force.²⁷

The response of the United States has been wary, and has centered around seeking assurances that " . . . NATO's position as the bulwark of Western security will not be undermined by French-German moves."²⁸ Some observers have gone so far as to speculate that the French and German proposal " . . . is the first step in the alliance's eventual unraveling."²⁹ Secretary Cheney has commented that a proposed European army " . . . should not be allowed to undermine NATO."³⁰

During the late 1991 Rome NATO summit, President Bush challenged the Europeans to decide what the U.S. role in a restructured alliance should be: "If, my friends, your ultimate aim is to provide independently for your own defense, the time to tell us is today."³¹ Clearly, the administration wants a strong U.S. involvement in European security for the foreseeable future. The Alliance is also extending a hand to Eastern Europe, offering cooperation and consultation with former Warsaw Pact countries through a new institution.³² The real concerns facing the alliance are "nuclear proliferation, instability among Mediterranean countries, and nationalist tensions in Eastern Europe."³³ General Galvin's comment was that NATO post-Rome was in fact, "a complete change, [with] smaller forces, a variable readiness, multi-nationality, a basis more in force generation, controlled mobilization, and high mobility."³⁴

Overall, Europe will remain a key theater of U.S. security interests. The degree to which direct U.S. involvement will be required will be shaped by events in the Soviet Union and Eastern Europe; as well as the shape of the evolving European community.

The chance of actual U.S. force deployment (beyond what remains in Europe as a "stabilizing force" and as part of a NATO reaction force) appears slim over the next several years, although dramatic alterations are possible.

From the perspective of air and sea power, the key issue is the withdrawal question. If U.S. forces are considerably downsized on the ground in Europe, as now appears likely, air and sea power will be a key ingredient in future U.S. participation in European security issues, even more so than in the past. U.S. air and sea assets will be critical portion of the mix for any "rapid response" force of any substantive size and credibility. As a sea power separated from Europe by the Atlantic Ocean, the United States will depend on her air and sea power to maintain a significant role in a restructured NATO alliance that features smaller forces, and world-wide deployability.

Middle East and Mediterranean

Without question, the Middle East and Mediterranean will be one of the most volatile global regions over the coming decade. For our purposes, this region includes the nations of the Mediterranean littoral, with particular focus on the Eastern Mediterranean and the Mahgreb region of North Africa. We will discuss the Persian Gulf separately in the next section.

There is very little reason for optimism concerning this region, and the problems that have led to four major land wars in the past thirty years are unlikely to be resolved. Despite the

U.S. orchestrated peace talks, the Palestinian question will continue to fester without any real solution on the horizon. Syria and Israel will continue locked in a mini-Cold War. A spate of terrorist incidents and Israeli retaliatory strikes have begun an upward spiral of violence, which has included the killing of Shi'ite Muslim leader Sheik Abbas Musawi and a brief Israeli invasion of southern Lebanon.³⁵ While Syria may be tempted into an accommodation of some sort with Israel as Assad attempts to move closer to the West, no lasting peace appears forthcoming between the two. The Syrians seem determined to play the game both ways, participating in regional peace conferences, while buying new North Korean Scud missiles and Soviet tanks and bombers.³⁶ The Syrians are also significantly boosting their security cooperation, including collaboration "in securing weapons of mass destruction."³⁷ The fractional situation in Lebanon does not appear likely to resolve³⁸, and Jordan will continue to be plagued by a collapsing economy and internal conflict between powerful political factions. The Egyptians will be pressed by an exploding population problem and friction with several other regional actors.

How are U.S. interests engaged? Principally through our historic emotional and political ties to the state of Israel, which will continue to command an extraordinarily powerful lobbying force in Washington. The region is also important for its proximity to the oil-rich Persian Gulf, as well as for the linkages to many of our European allies in Southern Europe and to Turkey. The Mediterranean itself is also an important sea lane

of communication through which flows a great deal of U.S. and allied trade. Finally, U.S. prestige is engaged in the Peace process, as well as through our continuing support for Egypt, our most important Arab ally. The United States will continue to work toward a peaceful solution to the seemingly intractable problems in the region, but the best that can be hoped for is merely to "keep the lid on." A worst case scenario would find renewed hostilities among the Israelis, Syrians, Jordanians, with outside involvement by Iraq, Iran, or other states possible.

Indeed, if defense expenditures are any example of regional trends, the likelihood of such conflict remains extraordinarily high. The Israelis are increasing defense expenditures by 6 percent above their current \$4.5 billion. The Syrian's are seeking "to buy an early warning radar and command and control equipment from the Soviets."³⁹ All of this is part of what some observers describe as a new Middle East arms race, with an emerging focus on regional ballistic missiles, satellites, and Patriot-style anti-missile systems.⁴⁰ Defense expenditures in the region are as follows:⁴¹

	Population	GDP/Capita	Defense/Capita	%
Israel	4.8 M	\$10,600	\$1,277	12%
Jordan	4.3 M	\$ 700	\$ 137	19%
Syria	12.8 M	\$ 879	\$ 126	14%
Lebanon	2.6 M	\$ 1,129	\$ 53	5%

Clearly, the threat to Israel in the region will be a key concern for U.S. planners for the foreseeable future. Israeli

policy will probably continue to exacerbate the problems by attacking targets in southern Lebanon, continuing construction of housing settlements in the occupied territories, and conducting armed overflights of Iraq.⁴² While the Israelis were willing to "stay out" of the Gulf War at the behest of the Bush administration (in return for financial benefits and the installation of Patriot systems), they have more recently rejected U.S. loan guarantees linked to stopping construction of settlements in the occupied territories. With U.S. influence over Israel reduced, the possibility of further conflict seems higher.

An additional source of trouble in the region will be Moammar Kadafy's Libya -- with influence in the Mediterranean, Northern Africa, and the Middle East. The winds of change sweeping the rest of the globe do not appear to penetrate Libya, which will continue to sponsor terrorism. Additionally, and more significantly, Kadafy will continue to attempt to obtain weapons of mass destruction, probably focusing his efforts on chemical and biological weapons for the near term.⁴³ Libya's leader continues to "back the wrong horse" on the global scene, even as he moves through his third decade in power domestically. His support for the failed coup in the former Soviet Union is a striking example of his extremism, commenting as he did that he wished the coup had succeeded and that "Moscow would reemerge as a deterrent force against imperialism."⁴⁴ He is embroiled in controversy over the indictments issued for two Libyan citizens for their alleged involvement in the bombing of Pan Am Flight 103

over Scotland in 1988, a situation which led to United Nations sanctions being enacted against Libya.⁴⁵

In nearby Algeria, conflict is emerging between Muslim fundamentalists and moderate forces spearheaded by the Army. After the fundamentalists were elected to a majority in the Algerian parliament, the Army moved into the streets, and has set up a provisional council to run the country. The conflict is indicative of the uncertainty of the mood among the Arab "man in the street" throughout the region. The fundamentalist Islamic movement is burgeoning in many states throughout the Mediterranean Arab rim, including Algeria, Tunisia, and Morocco.⁴⁶ It could also spread through Turkey or into the former Soviet Muslim republics. Egypt is also very concerned about the influence of Iran's exported revolution to the Sudan to her South and on segments of her own population.⁴⁷ During the Gulf War, the populace in Jordan, Morocco, Tunisia, and Sudan all took a sharply anti-U.S. tone in public demonstrations, often at the behest of Iranian-sponsored political operatives.

In addition to the many nations in the region, two powerful transnational organizations are significant actors in the region. One is the Palestinian Liberation Organization (which is gradually acquiring a quasi-official status). The PLO, despite a long and astounding history of bad judgement in backing losers (most recently Saddam Hussein and the aborted putsch leaders in the former Soviet Union) still remains a powerful voice in the region. They may lose significant financial backing over the coming years in retaliation for their poor decision-making in the

Gulf crisis, but their real strength is the ability to mobilize nearly a million Palestinians throughout the Middle East in demonstrations and strikes with serious effect. The second transnational organization in the region is the shadowy alliance of Shi'ite terrorist groups centered in Lebanon and financed by Iran, who will continue to be a nuisance out of proportion to the actual damage they accomplish. They may be able to spark U.S. intervention (on a limited basis, a la Achille Lauro) in a variety of scenarios.

An interesting and potentially troubling source of future conflict may be water. Throughout the strategically vital Middle East and Persian Gulf, the availability of water as populations expand may be a critical problem. Egyptian Defense Minister Lieutenant General Mohammed Tantawi recently predicted that future Middle East wars could start over scarce water resources. He indicated that Egypt was ready to use force to protect the Nile. The Syrians have made statements on several occasions that Israel should be denied access to water.⁴⁸ Desalinization plants in the region are particularly vulnerable to military strike and ecological sabotage.⁴⁹ Israel, Syria, Jordan, and Iraq are similarly embroiled in water controversies which add considerable friction to their already contentious relationships. Turkey has a crucial and pivotal role in the problem. It is an area that has received very little attention, and threatens to loom large on the horizon. Interestingly, negotiations concerning water are part of the Middle East peace process, although they are to be conducted separately. Jordan already has serious water problems

and has expressed concerns that by 1993 they might not have enough water for a burgeoning population.

Overall, the Mediterranean Sea will continue to be a key zone of U.S. interests, with the Eastern end the focus of planning and possible warfighting scenarios. The key alliance to Israel and our significant linkages with Egypt are important U.S. interests that dictate continued involvement in the region. At the same time, the proliferation of weapons, increased radicalization in many Arab states, conflict over territory and resources, and a high concentration of terrorist activity guarantee instability. As Colin Gray stated in a recent study for the U.S. Navy, "The possibility of U.S. military action around the littoral of the Mediterranean will exist far into the future."⁵⁰

Clearly, sea and air power will have a considerable impact in this region. The Mediterranean Middle East is a littoral area, with all national capitals within a hundred miles of the Mediterranean --Cairo, Jerusalem, Beirut, Damascus, Tripoli, Amman, and Tunis. Although Israel would provide bases for land power, using them might present problems with other allies in the region, placing a greater premium on the sea and air power mix. The use of air and sea power also avoids the problems inherent in putting U.S. ground forces into Israel. Doing so connotes a greater deal of political commitment to Israel than we might wish -- unless U.S. forces were part of a security guarantee to Israel in a broader regional settlement. The ability to influence events with quick strike operations has been amply demonstrated

through the various crises in the region, and there is every reason to expect further sea and air power operations to support U.S. policy.

Persian Gulf

U.S. involvement in the Gulf region turns around oil, of course. It dates from only recently declassified agreements between King Fahd and President Roosevelt in 1945, which included the formation of the Middle East Force, a small naval group on patrol in the key Persian Gulf. As the British gradually withdrew from the region in the 1960s, U.S. influence in the region grew, although it was tempered by our alliance with Israel. The rise of OPEC and the twin oil shocks of 1973 and 1978 sharpened U.S. appreciation of our strategic vulnerability represented by the oil resources and their free passage. This sense of vulnerability, coupled with the perceived rise of Soviet adventurism in the late 1970s and their invasion of Afghanistan, resulted in the Carter Doctrine. This U.S. policy pledged defense of the region as a "vital U.S. interest."

In the Gulf, U.S. forces have been employed in a variety of roles from 1987 through the present, in numbers comparable only to Vietnam in the post-World War II era. The two major evolutions were ERNEST WILL, the Kuwaiti tanker escort operations during the Iran-Iraq War (1987-1989); and DESERT SHIELD/DESERT STORM, the massive operation to liberate Kuwait after the Iraqi

invasion of August 1990. Given the confluence of energy resources, political instability, and recent history of successful military operations, the likelihood of further operations in the region seems high.

Potential conflict among Iraq, Iran, and Saudi Arabia -- the three key powers of the Gulf -- is likely. It is difficult to predict with accuracy the next conflict, but a peaceful resolution to the many land disputes, economic arguments, and religious quarrels will not happen in the foreseeable future. The forces of nationalism and democracy will add further variables to an already complex and volatile region. The emergence of new threats to vital U.S. interests is inevitable, given the politics of oil and the instability of the Gulf. Interestingly, the Saudi Foreign Minister, Prince Saud Faisal, recently said that Saudi Arabia and other Arab states of the Gulf may be about to improve their relations with Iran, while continuing to reject normalization of relations with Iraq. This would bring an important new alignment to the three major powers in the region.⁵¹ The Kuwaitis have recently called on the Gulf Cooperation Council to "bolster internal security and establish a Gulf strike force (of about 100,000 men) to deter any external aggression against them."⁵²

A key element of the security posture in this region will be the proliferation of advanced weapons. Hostile nations and huge oil revenues will lead to regional arms races for advanced jets, main battle tanks, cruise missiles, ballistic delivery systems, and high performance patrol boats --- to say nothing of

clandestine development of chemical, biological and nuclear weapons. Of particular concern is Iran, which "through secret deals with Russia, North Korea and other countries, is conducting a multibillion-dollar arms buildup that is fast making it the dominant power in the Persian Gulf."⁵³ Advanced tanks, SU-24 attack fighter bombers, MIG-29 fighters, and missile technology have all been sold to Iran, for a total of over \$2 billion in 1991-1992.⁵⁴ The Russian "fire sale" of military equipment at cut-rate prices will "supply Iran with spare parts, ammunition, and training for Iraqi planes which sought refuge in Iran during the Gulf war, [including] MIG-23s, MIG-27s, MIG-29s, Sukhoi-20/22s, and Sukhoi-24s."⁵⁵ The Iranians are also buying up to three diesel powered attack submarines from the former Soviet republics, and an Iranian Admiral stated the submarines would be "to gain control of the Strait of Hormuz."⁵⁶

Indeed, proliferation of nuclear, chemical, and biological weapons will be a key issue in the Gulf, with both Iraq and Iran probably pursuing various weapons of mass destruction. The head of Iran's nuclear agency recently commented that the Islamic Republic would have several nuclear power plants within 10 years. They are believed to be working closely with China and India, who have both offered to build plants abroad for cash.⁵⁷ Additionally, the Iranians and Syrians have announced an intent to produce jointly Scud-C missiles, with the plant being constructed in Syria by North Koreans -- a truly unholy trinity of actors from the Western perspective, to say the least.⁵⁸

A further complication in the Gulf will be the difficulty in

securing access to the region in the form of permanent bases for Western forces. Thus far, only Kuwait seems willing to sign a formal security pact with the United States, and that agreement will only include stockpiles of prepositioned equipment, periodic exercises and joint training, not a permanent base. Kuwait is also sharply increasing her defense spending, from \$1.5 billion to \$10 billion.⁵⁹ The Kuwaitis have also held a medium-size exercise with U.S. amphibious forces, including over 2,000 U.S. Marines.⁶⁰ The remainder of the nations in the Gulf Cooperation Council have declined to enter into more formal arrangements, despite Secretary of Defense Cheney's efforts in the spring of 1991, immediately after the crisis.⁶¹ Washington will continue talking to all the Gulf nations, with Saudi Arabia the "centerpiece of the network of security arrangements that United States is trying to forge," and discussions ongoing with Oman, Qatar, Bahrain, Oman, and the United Arab Emirates.⁶² At present, talks are moving forward slowly, with Saudi Arabia pressing for an offensive army "capable of large-scale, mobile warfare." The U.S. is balking over concerns that such a force would dramatically alter the military balance in the region.⁶³ To date, bilateral agreements have been signed with Kuwait (a ten year pact) and Bahrain.⁶⁴ The Saudis are pressing hard for more advanced weapons, including 72 F-15 jets -- a sale Israel opposes.⁶⁵

Iraq will continue to be a thorn in the side of the West as long as Saddam Hussein continues in power, and a showdown of some sort appears increasingly likely. Iraq is becoming increasingly

belligerent with United Nations restrictions on their oil exports and intrusive inspection regimes. The Iraqis are circumventing the U.N. sanctions with a network of air and truck transportation through Jordan.⁶⁶ According to the CIA, Saddam Hussein "still has 'perhaps hundreds' of hidden SCUD missiles, plus resources to produce biological war agents 'in a matter of weeks.'⁶⁷ In late 1991, Saddam tightened his grip on power by firing Prime Minister Saadun Hamadi, a relative moderate who was working on limited democratic reform. The Baathist party continues to maintain complete control over the armed forces and the political levers in the country.⁶⁸ Baghdad continues to engage in disputes with representatives of various United Nations inspection teams within the country and has drawn repeated warnings from the Security Council.⁶⁹ Along with the United Nations, the U.S. continues to warn Iraq that it faces "serious consequences" if it pursues weapons of mass destruction.⁷⁰ For its part, the U.S. continues to maintain a strongly anti-Saddam stand, including openly reviewing "military options on how the U.S. would respond to a coup in Iraq by senior members of the Iraqi armed forces."⁷¹ The U.S. has also seriously considered a military strike against Iraq to force the Iraqis to comply with U.N. security council orders. U.S. resolve was signified with the repositioning of a Carrier Battle Group in the Persian Gulf itself in late 1991.⁷²

In late September 1991, President Bush redeployed Patriot missiles to Saudi Arabia and threatened to operate combat aircraft to protect U.N. search missions throughout Iraq for nuclear, chemical, and biological weapon stockpiles.⁷³ Most

observers believe such stockpiles still exist in a variety of sites throughout the country.⁷⁴ As details of the Iraqi nuclear program emerge, it is clear that the Iraqis employed " . . . 10,000 or more technicians, scientists, and other workers. They consumed billions of dollars in the 1980's." They held plutonium, enriched uranium, and advanced implements necessary to produce a " . . . reasonably sophisticated nuclear weapon by 1993 or 1994 and to detonate a hydrogen bomb several years later."⁷⁵ It is now quite apparent that the Iraqis were building not only atomic bombs, but hydrogen bombs as well.⁷⁶ Additionally, most analysts believe there are "possibly hundreds of Scuds that Iraq is believed to be hiding."⁷⁷ It is not difficult to see the eventual need to take strong military measures to contain Iraq within the coming decade. As President Bush commented, "Saddam continues to rebuild his weapons of mass destruction and subject the Iraqi people to brutal repressions" -- hardly a situation that inspires confidence in a lasting regional peace.⁷⁸

In short, the Persian Gulf will continue to be a regional "hot button" which will crucially impact the international security environment. U.S. strategic concerns will be " . . . promoting stability and security, maintaining a free flow of oil, curbing the proliferation of weapons of mass destruction and ballistic missiles, discouraging destabilizing conventional arms sales, and countering terrorism."⁷⁹ Of all the global regions, the Persian Gulf is the most likely scene of actual warfighting over the next decade. In addition to U.S. concerns, both Western Europe and Japan import a large percentage of their oil from the

region and have considerable interests in the region.

It is hard to envision a theater more ideally suited to the application of integrated air and sea power than the Persian Gulf. As demonstrated for the past five years, U.S. forces have performed a major role in stabilizing the region and supporting U.S. interests. The nations of the region are centered around a constricted waterway which affords passage to within easy strike range of every capital. While basing may be a problem, DESERT SHIELD/DESERT STORM showed that when the chips were down bases would probably be approved. Diego Garcia in the central Indian Ocean affords some support and the Navy is very familiar with the waters of the Gulf, having operated there continuously since the Second World War. Overall, this is a region in which integrated air and sea power will have a major impact in the future.

Central America/Caribbean

Poverty, exploding populations, environmental impoverishment, refugee movements, narcotic activity, and terrorist operations will mark the security environment of Central America and the Caribbean over the coming decades. On the other hand, the trend toward democratization must be counted as a positive step for the region. As the National Security Strategy of 1992 comments, "The resurgence of democracy, the worldwide phenomenon that is such an inspiration to us, is heading toward a dramatic achievement -- a completely democratic hemisphere."⁸⁰ As a security problem, Central America and the

Caribbean will be a demanding arena for the United States, and can logically expect to command a far greater share of U.S. attention in the post Cold War environment. "In the absence of the incentive to compete with the Soviet Union, American strategy will focus on those areas where the U.S. has substantial concrete interests. These are, first, Mexico, Central American, the Caribbean, and the norther tier of South America. Concerns . . . [include] . . . propinquity, security, demography, economics, and drugs."⁸¹

Naturally, the nation of most concern is Mexico. While Mexico has great natural resources, it still faces considerable problems: Overpopulation, gross environmental destruction, corruption, lack of a culture of political stability, and excessive urbanization. The total collapse of Mexico, while a long shot, would present an enormously demanding challenge to the United States, which has demonstrated a complete inability to control its Southern border. Major political instability in Mexico would bring about an inordinate level of concern on the part of the United States and present a resulting global security problem. South of Mexico, the rest of Central America will continue to be a regional trouble spot with continuing implications for the United States, although direct involvement to the degree seen in the 1980s seems unlikely. Economic development, not military conflict will probably be the focus throughout the region.

The role of Cuba in the post Cold War environment has yet to be clarified. Its economic viability in the wake of economic

collapse in the Soviet Union is questionable, and the winds of democratization and capitalism are blowing hard south from Miami. Cuban-Americans are said to be packing for an expedient return following the expected overthrow of Castro. They may have a long wait. The Cuban security system is extensive and thorough, the populace not particularly restive, and Castro quite possibly the last pure Communist ideologue on the planet. He is also intelligent and versatile enough to give where he must to retain the power he has ruthlessly held for over thirty years. His ability to undertake adventures beyond his shores will undoubtedly be minimized for the foreseeable future, and his most important role may well be simply to be the "bad example" other Caribbean states point to in their movement toward market economies and capitalism. Interestingly, a Cuban defector recently said that Castro is trying to provoke the U.S. into a military attack as a means of rallying the country and holding on to power.⁸² As outside aid from Russia winds down, Castro is "calling for Cubans to increase their resistance against the U.S. and to defend the island's Communist system."⁸³

Russia is reviewing its entire relationship with Cuba, and direct aid will probably be reduced to virtually nothing over the next few years.⁸⁴ Some observers predict that Castro "will try to relieve his mounting economic pressures by opening up the emigration gates" in numbers that make the 100,000 who made the crossing during the 1980 Mariel boat lift "look like small potatoes."⁸⁵ The United States intends to maintain its base at Guantanamo Bay despite the Soviet pull-out, arguing that the base

has a "regional mission" that goes well beyond Cuba.⁸⁶ With the withdrawal of Russian aid, Castro may try to take his country down the so-called "zero option" path, reflecting zero assistance from the outside world -- a road that would require replacing automobiles with oxen-pulled carts, manual generation of electric power, and massive disturbances in the Cuban economy. All of this could lead to destabilization and a tendency to "lash out" at democratic regimes in the region, although most planners believe Castro will have his hands full at home.

Cuba's current economic hopes seems to be pinned on a closer relationship with China, which increased trade 150 percent to \$600 million over the past year.⁸⁷ Cuba is also expanding its relationship with North Korea, acquiring artillery and other weapons from the North Koreans.⁸⁸

Recent events in Haiti follow a consistent and depressing path. The island nation's politics have begun to resemble a novel by Graham Greene, with coups, counter-coups, and rebellion becoming the norm. The most recent coup deposed the elected President, Jean-Bertrand Aristide, who has appealed to the U.S. (as well as to the Organization of American States and France) for assistance in restoring democratic rule. The U.S. and France have both severed aid to the military junta. Thus far, the crisis continues with the military continuing to " . . . rule the country at gunpoint."⁸⁹ Refugees are streaming out of the war-torn country (over 10,000 thus far) and embarking in virtually any craft capable of floating to sea to attempt passage to the United States.⁹⁰ There have been allegations of reprisals against

entire villages supporting the ousted President, and the country seems headed toward complete chaos. While Aristide eventually may be able to reenter the country under a compromise arrangement with the military, desperate economic conditions will probably ensure continuing political chaos.⁹¹

Drug wars are escalating throughout the region. Throughout the Caribbean, U.S. air and sea patrols are expanding in scope. Army, Marine Corps, and Special Forces are working with Central American counterparts throughout the region to train troops for the drug wars. New drug trading and trans-shipment stations are emerging in Honduras and Panama.⁹² In each of the last three fiscal years, the Pentagon has spent over \$500 million on anti-narcotic activity, with more programmed for the future.⁹³ This aspect of regional security will be a key concern for the U.S. in the short to mid term.

In the five countries of Central America, unrest remains a problem. While a recent agreement between rebels and the government in El Salvador negotiated by the United Nations may reduce tension in that nation, Guatemala continues to be embroiled in active civil war.⁹⁴ Panama and Costa Rica face difficult economic problems, and Nicaragua and Honduras are in even worse financial straits.⁹⁵ A spate of bombings and coup rumors have plagued Panama, which has an unemployment rate topping 20 per cent, and the withdrawal of U.S. troops in 2000 will probably further undermine stability in the country.⁹⁶

Despite problems, however, there are reasons for hope in the region. The Sandinista army, once greater than 100,000 men, has

been reduced to only 21,000 -- making it the smallest in the region.⁹⁷ Under the leadership of democratically elected Violeta Chamorro, Nicaragua is attempting to restructure its economy and redistribute wealth, although it faces the possibility of renewed conflict with former contras who have been making sporadic attacks on soldiers and police.⁹⁸ Mexico has made significant progress economically over the past two years under the leadership of President Gortieri, a Harvard trained economist who believes economic reform must take top priority and that political reform will follow -- essentially the opposite of the Soviet Union's situation. In civil war-torn El Salvador, the elected government of Alfredo Cristiani and opposition guerrilla commanders have signed a comprehensive truce for the country's political and economic future that has brought the war to a close.

Overall, the Central American and Caribbean regions will undergo continuing political turmoil and perhaps limited military conflict, with the United States cast as a potential arbiter. While the possibility for major military action cannot be dismissed -- particularly given U.S. historical actions in the region, including Grenada and Panama recently -- it is less likely than the Persian Gulf, although still a plausible scenario.

From the standpoint of integrated air and sea power operations, this is a region with a high potential for effective use. Basing from the United States is possible in many scenarios, and most of the region is a day's sail from homeports

in the Southeast U.S. for naval forces. The Navy annually conducts UNITAS, an extensive series of exercises and cruises involving destroyers, frigates, submarines, and supply ships throughout South America. There is a long tradition (not always particularly welcome) of U.S. military intervention in the region, most recently in Panama and Grenada. Given the U.S. desire to avoid long-term involvement in any single country, the likelihood for quick action by air and sea power seems high for scenarios where a military response is judged appropriate.

Indian Ocean Littoral

Potential conflict between India and Pakistan has been endemic to this troubled region, through which run some of the West's most critical sea lanes of communication -- from the oil-rich Persian Gulf to the western U.S. and Japan. There is little to suggest any dramatic improvement in relations between Islamic Pakistan and largely Hindu India. The sources of conflict are legion -- border disputes, treatment of minorities in each country, arguments over influence in other littoral nations -- and the incentives for peaceful coexistence perceived as small by the two historical nations. The spiraling arms race between these two opponents has burst through the nuclear threshold, with both countries probable members of the "nuclear club." While India has long been known to have the means to detonate a nuclear device (having tested one in 1974), former Prime Minister Benazir Bhutto has only recently admitted that Pakistan has the ability

to build a nuclear weapon to "answer an attempted first strike by India."⁹⁹ Both countries probably have either the material or actual atomic bombs.¹⁰⁰ The conflict continues to simmer, with losses on both sides. Indeed, India "has been losing more than 100 soldiers a year on the Siachen glacier in Kashmir" along the 1972 "cease fire" line.¹⁰¹ Relations between the two countries continue to decline, and both sides "have beefed up military forces along the Kashmir frontier." The possibility of the fourth war since independence is increasing daily, with India accusing Pakistan of aiding Muslim and Sikh separatist guerrillas in the border states.¹⁰²

One other international security issue in the Indian Ocean littoral include the continuing problems in Afghanistan. While not part of the actual Indian Ocean littoral, the impact of the situation in Afghanistan is felt strongly in Pakistan and Iran, as well as the Soviet Union. Some analysts believe that the rise of nationalist sentiments in the former Soviet Union might create ethnic pressures leading to the breakup of Afghanistan, with turbulence throughout the region.¹⁰³ Some tribes in northern Afghanistan identify strongly with people in the southern Asian republics of the former Soviet Union, and others are interested in creating a free Baluchistan. Pakistan, meanwhile, might be interested in dominating Kabul to prevent the splitting of Baluchistan from them.¹⁰⁴ As of 1 January 1992, both the U.S. and the former Soviet Union have pledged to cease shipping arms to both sides in the conflict.¹⁰⁵ Iran is maneuvering to fill the vacuum in support for the mujahadeen, while China may begin to

supply arms to the Kabul regime of President Najibullah.¹⁰⁶

While the potential for regional crisis is high, the likelihood of direct U.S. military involvement appears low, assuming the belligerents do not interfere with sea lanes of communication through the Indian Ocean. The superpower stakes between the U.S., Soviet Union, and China -- which existed during the 1971 war between India and Pakistan -- no longer apply. The U.S. will no doubt maintain a significant naval presence (to protect sea lanes), but other force deployments in the region seem unlikely.

If U.S. military power is to be exercised in the region, it is more likely to be used as part of a humanitarian or peacekeeping operation or possibly in protecting sea lanes. If so, sea and air power will certainly be the key components of the operation.

Southeast Asia

President Bush, commenting on East Asian instability, recently said the U.S. cannot ignore problems in North Korea, Burma, China, and other states that "resist the worldwide movement toward political pluralism and contribute to the proliferation of dangerous weapons."¹⁰⁷ Additionally, trade for the U.S. with the nations of the Pacific rim has overtaken exchange with Europe. The thrust of U.S. interests over the coming decade from an economic standpoint appear to be shifting toward the Pacific.

Perhaps the most difficult issue facing analysts in this region today is the direction that will be undertaken by China. While the world's most populous country has undertaken a wide variety of economic reforms over the past five years, it has made little effort toward political reform. Indeed, the events in Tienamen Square in 1989 seem to demonstrate that a continuing policy against dramatic political reform is held by the ruling elite. In late 1991, China put the People's Liberation Army on alert to be "ready for sudden events" and counseled them to "obey the party absolutely." The Chinese have also increased their defense spending by 12 percent.¹⁰⁸

In a speech by Jiang Zemin, leader of the Communist party of China, great concern about the collapse of communism elsewhere was a central theme.¹⁰⁹ Perhaps the best indicator of the continuing Chinese focus on the communist line is their recently intensified ties with Cuba, one of the few remaining cold war bastions.¹¹⁰ The Chinese have also moved closer to North Korea, promising visiting President of North Korea Kim Il-sung that " . . . the two communist powers will stand firmly together in the face of sweeping global changes."¹¹¹ The Chief of staff of the Chinese Army has met with senior North Korean defense officials, emphasizing continuing military cooperation between the two.¹¹² China's booming arms export business, an important source of foreign currency for the nation, is also an irritant. There are recent reports that China supplied a good deal of the raw material that may have been the key element in Iraq's hydrogen bomb project.¹¹³

On the other hand, time is definitely on the side of democracy in China. The rulers are aging rapidly, and the eventual possibility of political reform seems likely over the next ten years. Most of the leading Western nations, notably the United States and the United Kingdom, are pursuing a policy of attempting to work with the ruling regime to avoid isolating China. The prevailing belief among strategists is that isolating China (in response to human rights abuses) will only hurt the long term prospects for democratic reform. Indeed, a visit by Prime Minister John Major of Britain (ostensibly to sign an agreement to build a new airport in Hong Kong) was used by Major as a forum to discuss Chinese human rights issues. He met with Premier Li Peng, President Yang Shangkun, and party chief Jiang Zemin to discuss China's role in the global community.¹¹⁴ Former Prime Minister Margaret Thatcher also paid a visit to China and met with Jiang Zemin, Prime Minister Li Peng, and Foreign Minister Qian Qichen.¹¹⁵ U.S. Secretary of State Baker also raised the human rights question, with very little response, during his late 1991 visit. Overall, the Chinese are charting an independent course in their foreign policy and the current leaders intend to permit no outside interference in their internal affairs.

Another key actor in East Asia is the Philippines. Continuing instability, corrupt government, overpopulation, lack of resources, and various political factions will contribute to a generally unstable atmosphere. The Philippines, of course, enjoys a "special relationship" with the United States, dating

from the colonial era after the Spanish-American War in 1898. There are many thousands of Americans living in the Philippines, as well as a large community in the United States. This may act to involve the United States in domestic problems in the Philippines. The United States will leave Subic Bay Naval Station by late 1992, having already given up Clark Air Base following explosions at Mount Pinatubo.¹¹⁶ The U.S. has adapted to the loss of Philippine bases by cobbling together a basing approach that will shift some functions back to the U.S. and scatter others in a variety of locations throughout the Western Pacific, e.g. Guam, Singapore, Malaysia, and possibly Indonesia.¹¹⁷ Unfortunately for the Philippines, the withdrawal of stabilizing U.S. forces from bases and the concomitant loss of considerable aid, hard currency payments, and potential commercial business will contribute to increasing problems in the islands. In late September 1991, Philippine rebels "called off their cease-fire [declared during base negotiations] and ordered their guerrilla forces to intensify a campaign to oust United States forces from the Philippines."¹¹⁸

Vietnam is difficult to assess. While they would like recognition and increased trade with the United States, they appear to be reaffirming their faith in the Marxist political system, moving toward closer relations with China -- while allowing some free market concepts to enter their economy. A rapprochement between China and Vietnam may have the positive effect of helping to settle the decade long conflict in Cambodia, which has been exacerbated by continuing warfare between the

Chinese-backed Khmer Rouge and the Vietnamese-installed regime.¹¹⁹ In addition to instability in Cambodia, the Vietnamese are embroiled with several other Southeast Asian nations in conflict over the potential undersea oil wealth of the Spratley Island region. While the eventual thrust of Vietnamese foreign policy is unclear today, they can be expected to continue to exert influence in Southeast Asia.¹²⁰ Beijing and Hanoi recently took steps toward full normalization with the visit of Nguyen Manh Cam, Vietnam's foreign minister, to China for the first time in over a decade.¹²¹ A Beijing-Hanoi axis in Southeast Asia, while unlikely given historical conflict between the two, would be a strong force throughout the region whose intentions would bear close scrutiny for U.S. planners.

Taiwan and Indonesia are also of concern for the United States, although direct security involvement involving either appears unlikely. Taiwan has become an important trading partner, and is watching China closely to see how the turnover of Hong Kong is handled by Beijing at the end of the decade. Indonesia, the world's most populace Muslim country, has many internal conflicts and is perceived as a concern by other U.S. allies in the region -- Australia, Singapore, and Malaysia.

Overall, there is much to be concerned about in Southeast Asia. Potential internal turmoil in China, perhaps similar to that experienced in the former Soviet Union, appears possible. Chinese foreign policy is difficult to predict, and their willingness to sell weapons to a variety of unstable regimes will be a source of conflict with the West. Vietnam's role is

difficult to assess, although they may become more closely allied with the Chinese. The potential for some limited military involvement by the U.S. in the Philippines (evacuation, for example) is high. This is an area of the world in which the future is unusually difficult to assess, and direct U.S. military involvement is a possibility in a variety of plausible scenarios.

Given the U.S. experience in Vietnam, the commitment of large land forces to East Asia seems unlikely. Any U.S. involvement will be centered around integrated air and sea power, particularly given the maritime nature of the theater. The possibility of evacuation operations from the Philippines, disaster response, and deterrent action against possible Vietnamese activity all seem possible -- and all would involve air and sea power as the major portion of U.S. military activity.

Northeast Asia

The key actor in the international security environment in this region of the world is Japan. While Japan continues to devote only one per cent of its gross national product to defense, it still as a result has the third largest defense budget in the world. The Japanese do not show signs (as a society) of becoming more comfortable with an increased military role (and nor does the thought of Japanese militarism sit well with many other countries neighbors throughout Asia). Yet there is a certain inevitability to the gradual reemergence of Japan as an even more significant military power. The Japanese Navy, for

example, just launched the first of four sophisticated AEGIS Guided Missile Destroyers, one for each of her ocean-going flotillas.¹²² Japan is importing a ton of reprocessed plutonium by sea from Europe for use in Japan's first fast-breeder reactor. This will eventually lead to large stockpiles of plutonium (which can be used in nuclear weapons).¹²³ A recent indication of the shifting winds in Japan is the broad support expressed in Japan's political establishment for a bill that would authorize Japanese military personnel to join United Nations peacekeeping forces around the world.¹²⁴ There are more and more expression on the Japanese right that in order to assume an appropriate role in world affairs -- including a seat on the U.N. Security Council - - Japan must maintain a strong military and use it to influence world events. Japan, poor in natural resources but technology rich, will eventually come to undertake a wider role in maintaining regional and global stability. That emergence may take a decade or more; but it is coming.

In the meantime, the United States will continue to play the role of guarantor of the peace in Northeast Asia. The natural diminishment of the threat from the former Soviet Union should make that a relatively painless experience with the possible exception of the Korean peninsula. Tensions between North and South Korea show only limited signs of abating as long as the Kim Il Sung regime remains in power in the North. Additionally, there is growing concern over North Korea's pursuit of nuclear weapons, with the South Korean Defense Minister Lee Jong-koo commenting that "in 1992, North Korea will be able to

extract enough plutonium to turn out six to seven atomic bombs like the ones dropped on Japan."¹²⁵ The North Koreans are "advancing their program in secret underground facilities designed to avoid satellite detection and international inspection."¹²⁶ South Korea's President Roh Tae Woo commented recently that North Korea's signing the international nuclear inspection accords is a "matter of utmost concern" for Seoul.¹²⁷

The United States recently announced it is pulling all atomic weapons from South Korea and called on the North Koreans to permit open inspection of their nuclear facilities.¹²⁸ The last nuclear weapons were removed from South Korea in late December 1991.¹²⁹ North Korean response to these entreaties has been positive, although " . . . the Communist government in Pyongyang appears as determined as ever to become a nuclear military power."¹³⁰ If the North Koreans do not allow full inspection of facilities, doubts will quickly grow as to their sincerity. Faced with apparent North Korean attempts to buy time to build at least one weapon, the U.S. has given North Korea an ultimatum to open its facilities to international inspection by June 1992 at the latest.¹³¹ There are concerns that the U.S. and South Korea might be tempted to try a preemptive strike against North Korean nuclear facilities, provoking further tension in the region.¹³² Secretary of State Baker has called the North Korean development of atomic weapons a "matter of urgent global concern" and is seeking cooperation from Japan, China and Russia to stop the program.¹³³ The U.S. has also halted a previously planned withdrawal of forces in South Korea in direct response to the

North Korean nuclear threat, saying that "the overall tension on the Korean Peninsula is very much related to whether or not North Korea is developing a nuclear weapon."¹³⁴

While small signs of progress are evident, there remains the distinct possibility for conflict on the Korean peninsula over the coming decades. Key policy objectives will be to keep both countries free of nuclear weapons, promote democratic progress in the North, and focus (over the long term) on the potential for reform and reunification in the North.¹³⁵ Even if the North Koreans move toward more pacific relations with their countrymen to the south, they still spend "more than 20 per cent of their gross national product on the military" and appear likely to continue doing so, according to General Robert RisCassi, Commander-in-Chief Combined Force Korea.¹³⁶

In addition, the withdrawal of Russian support from North Korea will be an important factor in the region. Moscow can be expected to attempt to improve relations with Seoul and Tokyo, which may further push the North Koreans down a path leading to expanded relationships with the West.¹³⁷ While this will not be accomplished without internal dissension and some potential conflict, the eventual likelihood is that an even more stable situation will emerge in the region. On the other hand, the North Koreans may feel the need to strike at the South before they are completely overshadowed economically (and, inevitably, militarily) by the industrious and rapidly industrializing South Koreans. China appears to be moving closer to North Korea, with Chinese Communist Party chief Jiang Semín saying, "No matter what

changes occur in the international situation, China will do its utmost to consolidate and expand Sino-Korean friendship."¹³⁸

While the South Koreans seem anxious for a continued U.S. presence (and are willing to pay more to support such forces), there will be some downsizing of U.S. forces in country over the next few years. There is certainly the potential for a regional crisis, particularly in the near term.

Korea is a likely crisis arena where significant land forces may be required. Littoral operations by air and sea power can influence most scenarios, but a successful defense from a determined land attack from the North will require U.S. Army forces, and most Koreans seem inclined to retain such forces in country. Elsewhere in the region, air and sea power will have a dominant role, given the essentially maritime character of the area.

Subsaharan Africa

The volatile region on the horn of Africa will pose a variety of challenges in the evolving global security environment. The possibility of a major explosion in South Africa dominates planning concerning this region. The simmering tensions of apartheid, while responding somewhat to recent liberalizations on the part of the DeClerk regime, still have great potential to flare up to a major conflict. There are not extensive U.S. interests involved in the region at this point, but there is a great deal of overall Western investment, to say

nothing of the humanitarian problems that might emerge.¹³⁹ Zaire, another major state in the region, has recently been racked by rioting and rebellion by Army forces. This led to the deployment of French and Belgian troops to protect foreign nationals and conduct evacuations, an effort in which the U.S. provided aid in the form of military transport.¹⁴⁰

The rest of Subsaharan Africa is likewise extraordinarily volatile, given continuing strife in Angola and literally dozens of tribal feuds. In fact, tribalism is to Africa as nationalism is to Europe in the latter half of this century -- an enormously divisive force that could utterly rend the fabric of the entire region.¹⁴¹ One example is extensive rioting in Nigeria, which has pitted Muslims against Christians and caused the death of hundreds.¹⁴² Revolutions in Somalia and Ethiopia, which command the sea lanes through the Red Sea, are also of concern for the United States.

From a U.S. perspective, the region has relatively low strategic value -- other than to control sea lanes around the African littoral and for some strategic minerals. While there may be concern for U.S. commercial interests and civilians traveling in the region, the numbers involved will not warrant a significant involvement of U.S. forces.¹⁴³ At least the end of the Cold War should free Africa from its earlier role as a battleground between the superpowers, and should help regimes in the region focus on improving their standard of living and internal situation without the temptation to play the U.S. and the Soviets against each other for limited gains.¹⁴⁴ Some of the

remaining marxist regimes may turn to Beijing for military and financial assistance, as the Tanzanians have.¹⁴⁵

Beyond the possibility of further evacuation operations, the likelihood of U.S. direct military involvement in this region appears small.

Economic and Other Issues

Finally, there is a key economic dimension to the future security environment. This may occur on two levels. First, so long as a widening gap exists between the industrialized North and the less developed South, there will be potential economic conflict that is fundamental and resource-based, i.e. "haves" versus "have nots." While the South will have few direct military options, the tendency to create and participate in regional conflict to the discomfiture of the far richer North will remain a key element in the international environment. Sponsorship of terrorist groups, attacks on Western activities and allies, and obstructionism in global organizations are all manifestations of this tendency on the part of the South. This problem will be exacerbated by burgeoning populations, the presence of refugees from various regional conflicts, and the existence of youthful populations in the South.¹⁴⁶

Indeed, while the possibility of North-South direct military competition emerging from economic issues is rather slight, the highest likelihood of future conflict is in the category of South-South warfighting. This could have serious consequences

for U.S. and allied interests. Examples of South-South warfighting that could spill-over and impact U.S. security interests include India-Pakistan, Iraq-Saudi Arabia/Kuwait, Syria-Israel, and Greece-Turkey.¹⁴⁷

The second potential area of economic conflict is less likely but more serious. Global trade imbalances, tariff and real trade barriers, unfair labor and manufacturing practices (dumping in foreign markets, for example) may lead to dramatic differences of opinion and ultimately to conflict between industrialized countries. While the likelihood of the U.S. and Japan going to war over Kobe Beef, HDTV patent rights, and Honda automobiles may appear unlikely at this juncture, there may be extremely volatile situations between Japan and some of the newly industrialized countries of the Asian Pacific Rim over market competition and trade conflicts before the century is over. Additionally, the potential for strident economic competition between the U.S. and Germany, or the U.S. and the European Community seems high over the next ten years. Will this flare into economic warfare, or even direct military conflict? It seems unlikely -- but in a rapidly changing world, anything is possible.

A new dimension to the international security environment may be the development of security issues arising from ecological concerns. Population growth (expanding at three per cent per year in Africa and two per cent per year in Latin America) will create major ecological pressures in lesser developed countries. This will in turn create regional instability as competition for

jobs, scarce resources (water, energy, land) exacerbates unstable political situations. The erosion and depletion of arable land throughout the South, coupled with scarce and polluted water supplies will further add to the pressure for urbanization.

"Absent profound change in man's relationship to his environment, the future does not look bright."¹⁴⁸ While it is difficult to postulate direct specific warfighting based on pure ecological concerns, the possibility for increased friction over cross-border air pollution, toxic materials deposited into water tables, and offshore oil spills will mount.

Population and migration, which are tied hand-in-hand, are worthy of special mention in discussing the future security environment. As global populations in the less developed South continue to grow at high rates (while the growth rate in the industrialized North declines), migratory pressures will increase. Migration is the movement of people across borders, including both legal and illegal migration, as well as the movement of refugees. Legal migration is not a national security issue. Illegal migration and movement of refugees can pose serious national security issues for the U.S. and allies. For the United States, the most obvious example is the long land border with Mexico. Mexico is experiencing high growth rates, rapid urbanization of her population, high unemployment, gross environmental pollution, and political instability. Over one million illegal aliens migrate into the United States annually,¹⁴⁹ indicating we have lost control of our borders. Further economic decline and political instability in Mexico could easily lead to

rapid increases in this illegal migration, putting severe pressures on social services and economic systems in U.S. border regions.

A second example of national security concerns arising from migration is the expanding population of out-of-area workers in Western Europe. Large numbers of Arabs, Palestinians, Turks, and Filipinos are working both legally and illegally in Western Europe. They pose a significant security problem in a wide variety of categories.

Refugee movements can be severely destabilizing in various regional settings. The obvious current example is Yugoslavia, where large numbers of refugees have attempted to cross the border to Italy and other destinations in Western Europe. Additionally, Eastern Europe may be faced with an increasing refugee problem over the next decade as the political situation in the Soviet Union is resolved. Refugees are likewise a constant source of friction throughout East Asia. While in themselves not major security problems, the presence of refugees within the borders of U.S. allies could pose a problem to U.S. security interests to the degree they create instability.

A final aspect of the future international security environment is the problem posed by narcotics. This is a problem with two dimensions: domestic and international. From a purely domestic standpoint, the presence of large quantities of drugs in our nation is destroying millions of young Americans each year and constitutes a tremendous drain on national resources. Within our borders, the trade in narcotics must continue to be attacked

vigorously both on the demand side (mandatory testing, education, treatment) and on the supply side (effective police action, stiff sentences for traffickers and users). From an international perspective, interdicting the flow of narcotics before they reach our borders will be an ongoing security problem for the United States. A growing segment of the U.S. defense establishment may eventually be involved in the war on drugs, representing a drain on time and resources available to devote to other global missions.¹⁵⁰

Implications for U.S. Interests

What does all of this mean for the United States?

At a broad level there are a series of basic conclusions that can be drawn concerning U.S. interests and the requirement for integrated air and sea power in sustaining and advancing these interests.

First, The demise of the bipolar construct virtually guarantees a period of U.S. de facto leadership. While the United States is unlikely to undertake a domineering foreign policy or seek the role of global policeman, it will certainly become the "court of final appeals" in the global context. Many regions in turmoil, conflict, or extremis from natural disaster will turn to the U.S. for assistance and leadership. This will mean potential scenarios dispersed virtually throughout the world in which U.S. power must be brought to bear. In many instances, as will be discussed in great depth in succeeding chapters, the

chosen instrument will be integrated air and sea power -- applicable at virtually every step on the ladder of escalation as well as in responding to natural disaster.

A second, and closely related, issue for the United States is the likelihood of political instability in a wide variety of regions throughout the world. The most likely crisis areas involving U.S. forces will be, in descending order, Persian Gulf/Middle East; Central America/Caribbean; and East Asia. All three are essentially littoral arenas in which mobile sea and air power will be a primary instrument of U.S. power. Political instability in these regions has a direct impact on the United States because of our alliance systems, the presence of vital raw materials and key overseas markets, the size of U.S. investment and interests, and significant U.S. ethnic populations with links in each region. Such political instability will require the application of a wide variety of U.S. policy instruments, often including integrated air and sea power. All three of these regions, as well as several others, will be examined in the next chapter of this study.

Third, the new array of potential threat issues -- narcotics, resource conflicts, ecological concerns, refugees, disaster relief, transnational actors of increasing influence -- will require creative applications of U.S. military power. The most flexible instrument available will be integrated air and sea power, which is capable of responding with extraordinary rapidity to adapt itself to meet new crisis situations. The combination of air and sea power, particularly when structured to operate

without significant forward basing, can respond against terrorists and narcotics organizations. Air and sea power can move refugees or protect them in littoral areas, and provide for rapid and effective relief in the face of natural disasters.

The proliferation of advanced weapons -- particularly nuclear, chemical and biological weapons of mass destruction and their attendant ballistic delivery systems -- will produce a requirement for new forms of deterrence. Are there regimes that are "undeterrable" once they possess such weapons, as some have postulated? That seems unlikely. More likely, the United States and her allies will need to develop new concepts of collective deterrence. One solution, as in the Israeli strike on the Osirik nuclear site in Iraq, is the launching of preemptive strikes against states developing such weapons -- although such a policy will be difficult to implement while Israel (and possibly other "acceptable" states) have clandestine nuclear, chemical, and biological programs. In virtually all scenarios, integrated air and sea power strike forces will likely be one method of applying military force in solving the problems of proliferation.

Finally, the decline of U.S. access to overseas bases will accelerate the need for integrated air and sea power forces capable of independent operations. As the U.S. defense budget declines, the pressures to cut the U.S. overseas base structure further will prove irresistible. By the end of September 1992, the nearly century-long U.S. military presence in the Philippines will come to a close, for example.¹⁵¹ Fewer overseas bases means a greater premium on mobile forces that can operate with few, if

any, access agreements or permanent logistic bases outside the United States.

Potential Future Conflict Arenas

One key in planning for the use of integrated air and sea power is attempting to identify future conflict areas. Naturally, such assessments are risky. Events change daily, and what seems benign today may be at the center of a dramatic arc of crisis tomorrow. Yet we must analyze and assess as best we can, recognizing that preparation for conflict is the key to successful conclusion. The regions identified below represent likely areas in which the employment of integrated air and sea power will be useful for U.S. security policy. Based on the foregoing assessment of the future security environment, the United States should prepare for potential conflict in the following regions:

1. **Persian Gulf/Mediterranean Middle East:** The problems here are virtually intractable, the stakes (given the tremendous oil reserves) so high, and the actors so unstable that this area is the most likely region of the globe in which U.S. forces will (again) find themselves in the role of attempting to contain crisis. Any number of scenarios are possible, but a few possibilities include a resurgence on the part of Iraq; conflict between Iran and various other powers; conflict between Turkey (a NATO member) and Iraq, or Arab attacks on Israel. The arrival of the new central Asian Islamic republics who have left the former

Soviet Union will complicate relations in the northern tier of the region. The presence of many dangerous transnational groups (primarily terrorist) may act to catalyze an already dangerous situation.

2. **Central America/Caribbean:** The transition from authoritarian rule to fledgling democracy historically makes for turbulent times. In both Central and South America, there are a variety of potential trouble spots in which U.S. interests could be threatened and in which the U.S. could logically be expected to play a role in calming an explosive situation. Examples include civil war in Panama, El Salvador or Nicaragua, unrest in Mexico, or further conflict with transnational actors involved in narcotics, terrorism, or both. Population pressures, urbanization, and ecological issues may well play a part in conflict in this volatile region, which is simply too close to the United States to ignore. Finally, the presence of a large and growing hispanic minority in the United States will add to domestic pressure to be involved in the regions problems in a positive fashion.

3. **East Asia:** The presence of two Marxist regimes (North Korea and Vietnam), as well as the potential instability in China (with the world's third largest nuclear arsenal), bode ill for U.S. interests. Additionally, both the Philippines and Indonesia seem prone to potential conflicts, either internally or with neighbors over natural resources (notably offshore oil), markets, or trade. The long term resolution of the status of Taiwan may also pose some challenges for the United States.

4. **Russia and the republics:** While the possibility of facing an expansionist Russia seems unlikely in the near term, two major security problems with the former Soviet Union must be watched closely -- the possibility of instability leading to the use of some number of nuclear weapons; or the rise of an authoritarian leader emerging from a traditional Russian "time of trouble" leading the country back to an aggressive posture. Neither appears immediately likely, but to hedge against this potentially major threat to its security, the United States must retain a truly global military capability and an effective nuclear deterrent force. As a general rule, however, this would not be a regional question and is therefore excluded from the scope of our analysis here.

In summary, then, three major potential regional crisis arenas seem possible during the 1990s: the Persian Gulf/Mediterranean Middle East; Central America/Caribbean; and East Asia. Overlaying all of them is the possibility of a resurgence by Russia, although this seems unlikely as an immediate security threat. In subsequent chapters, our analysis will focus on the integrated use of air and sea power in controlling such regional crises as these, with the goal being to terminate hostile and violent activity at the lowest possible level in the calculus.

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III. VERTICAL LADDER OF ESCALATION IN REGIONAL CRISIS

Introduction

The essence of managing regional crisis is maintaining control of the vertical ladder of escalation. Air power and sea power are particularly useful in controlling escalation, because each can be used in a limited fashion initially, gradually increased in intensity, and finally used with devastating force if necessary. While both air power and sea power offer specific advantages and disadvantages, their integration offers the best means of maintaining positive control in what is naturally a chaotic warfighting environment. Each level of vertical escalation in a regional crisis represents a distinct level of violence -- even though each crisis admittedly is a unique set of circumstances. Each level in the gradually intensifying ladder of escalation in a regional crisis scenario is unique and presents a different opportunity for effectively using integrated air and sea power. Before examining each level in the vertical ladder of escalation, we must settle on a definition of a crisis itself.

What is a crisis?

A deceptively simple question. One is reminded of the Supreme Court Justice describing pornography: "I can't define

it, but I know it when I see it." In the case of a crisis, much the same holds true in the real world -- a crisis is, like beauty, in the eye of the beholder. For our purposes here, however, we need to establish a boundary to what can be described as a crisis as we seek to establish a coherent means for integrating air and sea power in controlling escalation in a crisis.

There already exists a "standard" Department of Defense definition of a crisis: "An incident or situation involving a threat to the United States, its territories, citizens, military forces, and possessions or interests that develops rapidly and creates a condition of such diplomatic, economic, political, or military importance that commitment of U.S. military forces and resources is contemplated to achieve national objectives."¹ This is an adequate, if extremely general, formulation.

Our perspective will be centered on the United States, and will be bounded by somewhat artificial levels of activity. Again, this should not imply that an academic definition of what is quintessentially a "real world" issue is acceptable. It is merely a convenient means to bound the problem for study.

A crisis will be defined as:

1. A sequence of events in a given country or geographic region (hereafter generally described as a "crisis arena") that has a significant impact on the United States through cultural, political, economic, or military means;

2. **AND** involves one (or more) of the following:

- o An invasion of one country by another;

- o A civil war;
- o A violent change of government through an assassination, coup, etc;
- o Rioting, looting, or massive acts of civil violence occurring for greater than a two day period and injuring more than 50 nationals or any U.S. citizen;
- o An attempted assassination, coup, or other incident that creates an atmosphere of extreme instability;
- o Terrorist incident involving the deaths, serious injury or taking hostage of 10 or more nationals or any U.S. citizen.

A situation meeting the criteria outlined above has the **potential** to affect the United States adversely, and will generally entail at least a discussion meeting involving the President and the National Security Council.

Perhaps the most important elements of a regional crisis are the additional characteristics that generally seem to accompany situations that fill the definition above. These include:

- o The political aspects of the situation, particularly from the standpoint of the United States, will often dominate decision making.

- o Relatively tight command and control will be exercised from the National Command Authority (although the Persian Gulf War appeared to be a change in that policy, it is worth noting that the President, the National Security Advisor, and the Chairman of the Joint Chiefs of Staff all were very active in the

political aspects of the crisis -- only when the decision was taken to move to all-out combat was there a decrease in "rudder orders" from the top). Grenada was such a case in practice. General Vessey, the Chairman of the Joint Staff during the invasion, prohibited any messages to the force commander for the invasion without his (the Chairman's) personal review. Needless to say, this decreased the "rudder orders" considerably.²

- o The element of surprise is generally present. While planners can usually predict that a given region is prone to conflict and crisis, they can rarely pinpoint a specific moment of trouble. Events like the Iraqi invasion of Kuwait, the Argentinean invasion of the Falklands, the explosion in the Marine barracks in Lebanon, and so forth are rarely, forecast with any accuracy.

- o A premium will **always** be placed on maintaining relatively low casualties on our own side; but in regional crisis, decision makers will be influenced to an even greater degree by the need to keep casualties low. Why? To maintain public support for the operation by reducing U.S. casualties to a minimum.

- o Public opinion will be critical element of the operation, and public opinion polls will be followed closely by the National Command Authority. Will this steer the action? Perhaps, although the President and his closest advisors will balance the immediacy of public response with the exigencies of the military situation and the long term interests of the nation -- generally acting after discussion and consultation with Congressional leaders.

o As a general rule, the application of force will flow from lower levels of violence to higher. This is a result of the natural human tendency to avoid escalating crisis by dramatic upward spirals of violence. Even in the Persian Gulf, where some analysts have commented on the sudden and extremely violent use of U.S. power to resolve the crisis once the shooting war began, the progression was in fact very much an upward one of graduated escalation over a period of months. It began with the application of unilateral and multilateral diplomatic approaches, progressed to economic tools, then used shows of force and presence operations. It moved upward to sanctions and blockade. The application of force then included demonstrations of power, increase of forces, and further diplomatic confrontation. The crisis managers then used strike operations and amphibious demonstrations. Finally, when the entire ladder of force had been progressively scaled, seizure of territory and land attacks were undertaken.

Controlling Crisis

Most crises tend to escalate in violence. Generally, as a situation degenerates into additional levels of violence, United States interests are threatened to a greater degree. This occurs "on the ground" in the crisis arena, as U.S. citizens, diplomats, military personnel, capital stocks, and business interests are directly threatened (as in an Iranian hostage situation) or caught in a cross-fire (as in Liberia or Somalia during recent

civil wars). U.S. regional interests are also threatened, typically across country lines in the crisis arena, as refugee flows, invasions, sympathetic supporters across borders, and other external factors become involved (as in refugee movements into Turkey following DESERT STORM). Finally, U.S. strategic interests are threatened in the region or globally (as in threats to oil supplies during Iraq's invasion of Kuwait).

In most crisis situations, therefore, control of the crisis is the objective of planners. Their most basic concern is to prevent an escalation of the crisis, which can lead to heightened threats to U.S. interests. In order to control the vertical escalation of the crisis, planners have a range of tools at their disposal. These range from public diplomacy, at the lowest level of force, through political and economic means, and eventually to the application of military forces in a region.

It is with the application of military force we are concerned, and specifically with the use of integrated air and sea power in the crisis arena. It is assumed at the outset in our analysis that planners have either rejected political and economic tools, already used them, or decided on the need for some military applications in addition.

An interesting way to look at controlling the vertical ladder of escalation is that it is part of what might be termed a sequential pattern of operations. In general, the waging of war can be described as either cumulative or sequential.³ In cumulative warfighting, the landing of continuous, powerful blows on the enemy without a great deal of regard to highly specific

synchronization is the central objective. This has been the general American approach to war, as exemplified by U.S. tendency to throw enormous quantities of men and material at a broad warfighting venue until the enemy is pummelled into unconditional surrender.⁴

Sequential warfighting is quite different, and is far more suited to the relatively progressive cadence of escalation in a "typical" regional crisis. The hallmarks of a regional crisis discussed above -- politicized issues, relatively quick crisis generation, a premium on low casualties, specific political objectives, a high degree of command and control exercised by all actors -- lead naturally to sequential operations. As the name implies, sequential operations consist of selecting specific activities on the vertical ladder of escalation and proceeding upward (or downward) as circumstances warrant. Sequential operations can also include proceeding in a geographically sequential manner while remaining on a single rung of the vertical ladder of escalation. An example of the first type of sequential operations is simply adding more direct use of firepower over time, i.e. beginning with demonstrations of force, then proceeding sequentially through light, medium, and heavy strike, and finally conducting an invasion to seize territory. An example of the second type of sequential operations would be starting with medium strike operations on a small area in a single city and then proceeding to conduct further medium strike operations on an expanding geographic area, spreading the attack to larger areas of the city then on to other strategic centers in

the crisis arena.

Sequential operations is a critically important concept for planners in the evolving international security environment. First, sequencing permits the planner to exercise better control over the warfighting forces introduced into the crisis because the forces are part of a more deliberate and orderly application process. Second, sequencing better supports the accomplishment of political objectives by allowing negotiations at various stages of the conflict. Third, sequencing will generally (although not always) permit lower levels of casualties and to loss of fewer prisoners of war, because the possibility of settling the conflict at an earlier stage of actual violence exists. Fourth, sequencing is a better operational approach for war termination, because it reduces the emotionalism and "all or nothing" attitudes that develop in cumulative styles of warfighting.

Sequential operations are not limited war, however. Sequencing can lead very quickly to the application of extremely high levels of violence, as in the Persian Gulf War; or it can be part of relatively low levels of violence, as in shows of force with aircraft and ships in Southeast Asia in the 1950s. Sequencing forces into a theater is a type of military operation, not a style of war.

Vietnam, some would say, was an example of sequencing that failed. Given that it failed in that conflict, why then is the concept so important? The reason sequencing failed in Vietnam was that the sequencing (in the sense used here of movement up

and down the vertical ladder of escalation) was too widely spaced, permitting the enemy to react to each change in the sequence and retool their strategy. The Gulf War was a situation in which sequencing was not relevant to the problem -- because the enemy, Saddam Hussein, moved quickly to a determined "all or nothing" stance. In the majority of regional crises over the next decade, I believe sequential warfighting (control of the vertical ladder of escalation) will be our most effective tool or response -- particularly with integrated air and sea power. It is particularly important because it may be possible to contain many crises at a lower level before they escalate to far higher levels of violence.

As an illustration of the concept of sequencing, the U.S. response to the crisis in the Persian Gulf in 1987-1989 resulting from the tanker war waged by Iraq and Iran's response in attacking merchant shipping in the Gulf was a good example of sequential operations. The U.S. began with a show of force, moving a Carrier Battle Group to the Persian Gulf in July of 1987 as Iranian attacks escalated. Next was a demonstration of force, as attack aircraft, reconnaissance aircraft, and Navy frigates demonstrated a wide variety of military capability in the Gulf. The next sequential activity was geographical, as the military demonstrations spread from the Strait of Hormuz to Iran's Persian Gulf coast and North Arabian Sea coast. The next level of activity was the beginning of escort operations in August of 1987. This was followed sequentially by a variety of actions (and reactions by Iran) that eventually led to the destruction of

most of Iran's surface Navy in April 1988.⁵ As discussed earlier, the Persian Gulf crisis and war of 1990-1991 followed a broadly similar path -- a progressive application of force through the entire vertical ladder of escalation -- although on a more compressed time line and with little response from the enemy. Why did Saddam fail to respond to the clear vertical escalation from the coalition? Because his ego, intransigence, malevolence, and hubris were of epic proportions. Also, because he completely misread U.S. policy. His mistakes are unlikely to be repeated (at least on so grand a scale), which leads to the conclusion that vertical control of escalation can be a powerful tool for U.S. security policy in the future. This will be discussed in more depth in subsequent chapters.

Vertical Ladder of Escalation

The various steps on the vertical ladder of escalation have been discussed and debated by operators, analysts, and academics throughout the post-World War II period. The most thorough and widely accepted "ladder" was developed by Herman Kahn, and includes 44 separate "steps" leading from "ostensible crisis" (step 1) through "spasm or insensate war" (step 44).⁶ His 44 steps are more politically oriented and also deal with larger scale warfare than we are concerned with in this study. For our purposes, an abbreviated ladder of vertical escalation might include eight discrete steps and four additional techniques. More detailed divisions could be developed and analyzed, but the vast majority of uses of integrated air and sea power fall into

this structure, which is discussed below:

VERTICAL LADDER OF ESCALATION

- Ladder of Escalation:
1. Show of Force
 2. Demonstration of Power
 3. Blockade/Embargo/Quarantine/
Escort
 4. Extraction Operations
 5. Low Level Strike
 6. Medium Level Strike
 7. Heavy Strike
 8. Seizure of Territory

- Additional:
1. Electronic Intrusion
 2. Propaganda
 3. Special Operations
 4. Intelligence Collection

Show of Force

At the earliest stage in a regional crisis, the initial instrument of force does not involve actually applying violent force to the situation -- it is merely a show of force. Many crises can be resolved by the U.S. or allied forces simply demonstrating their capability and determination to actually use military force. A show of force is a firm embodiment of deterrence, in that it adds visible credibility to the already understood capability of forces. It is " . . . an extension of presence that stops short of bringing opposing forces together in conflict. It has been referred to as . . . 'saber rattling.'" Examples of show of force are legion, and can be accomplished with air power, sea power, or a combination of the two. The arrival of a Carrier Battle Group in a crisis arena, even though operating in international waters, sends a strong signal. Likewise, a squadron of attack aircraft suddenly appearing at a base in a nearby friendly country can quickly calm a volatile situation -- even if the aircraft stay parked on the runway.

A recent example of a show of force calming a dangerous regional situation might include the dispatch of Carrier Battle Groups to the Sea of Japan during the Seoul Olympics during the summer of 1988. The presence of such forces in international waters demonstrated to any possible crisis actors that any action would receive a quick and dramatic response.⁸ The U.S. Air Force

likewise flew AWACS and fighter missions in a highly visible manner during the same Olympiad.⁹ A second recent example was the arrival of the NIMITZ Carrier battle group and an Amphibious Ready Group ordered from Italy to the Eastern Mediterranean in response to the hijacking of a TWA aircraft in June of 1985.¹⁰

Demonstration of Power

The difference between a show of force and a demonstration of power is in the way military forces are postured and in "the degree of implied threat."¹¹ In a show of force, military forces are simply brought into the crisis arena. As an example, a Navy destroyer armed with Tomahawk land-attack cruise missiles is moved within 500 nautical miles from an industrial center in the crisis arena -- within Tomahawk land-attack range. Alternatively, a squadron of B-52 bombers are moved to within 1000 miles of the crisis arena, to an available base (assuming one is present). A third (a very telling) show of force is the arrival of an amphibious assault force at a nearby friendly coast. In all cases a high level of media coverage is desirable.

In a demonstration of power, on the other hand, actual military capability is vividly demonstrated. Examples might include naval forces flying targeting helicopters within radar range (or even visual range) of gunfire or missile attack targets ashore while "shining" their fire control radar. From an air power perspective, an aircraft carrier might launch attack aircraft to fly a "practice" mission along the maritime boundary

of the crisis arena, demonstrating support for freedom of navigation. Finally, an amphibious assault group might stage a demonstration landing, accompanied by high press coverage, at a nearby friendly coast. All three of these examples of demonstration of power were used during the Persian Gulf War, as were the shows of force.¹²

The demonstration of power must include military operations that are visible and pose a credible threat to the conflicting actor in the crisis arena. Attack aircraft from AMERICA and CORAL SEA battle groups demonstrated their combat capabilities with missile firings and air control exercises in early 1986 during freedom of navigation operations directed against Khadafy's Libyan regime in the central Mediterranean.¹³ Another example was the efforts of the U.S. Air Force during the Cuban Missile Crisis. The entire Strategic Air Command was generated to alert status and deployed to wartime dispersal sites, while airlifters deployed Army and Marine units to concentration points throughout the Southern United States.¹⁴ A third example was the use in 1989 of F-4 Phantom IIs making "persuasion" flights (military operations meant to frighten the rebels, undertaken with an immediate attempt to open fire) over rebel positions during a coup attempt directed against President Aquino in the Philippines.¹⁵

Blockade/Embargo/Quarantine/Escort

Once control of the seas and the air in the crisis arena has

been won, policy makers may want to try a blockade, quarantine or embargo to control a developing regional crisis. Since over 95% of all traded goods, critical materials, and strategic resources travel over the world's oceans, a sea blockade or embargo can be particularly effective. There are no historical examples of air blockade or embargo in scenarios short of war (naturally there are many examples during declared war), but control of the air would theoretically permit an air side to the blockade or embargo as well. A blockade is simply the preventing of any commerce entering or leaving the crisis arena. An absolute blockade cuts off all communications and commerce. An embargo is the preventing of specified products (oil, missiles, strategic minerals) from entering or leaving the crisis arena. A quarantine is "a collective, peaceful process involving limited coercive measures interdicting the unreasonable movement of certain types of offensive military weapons and associated material by one state into the territory of another," is a really a specific form of an embargo. There are distinctions in international law between these instruments. A blockade is an act of war when declared or imposed and is, as such, a defacto declaration of war. A quarantine is not, nor is an embargo. These fall more under the headings of sanctions or acts short of war. This may be one primary reason why we did not "blockade" Cuba in 1962 or declare a "blockade" of Iraq in August 1990, even though the effect was much the same.¹⁶

The classic example of an effective quarantine is the seaborne action undertaken by the Kennedy administration during

the 1962 Cuban Missile Crisis. The quarantine was selected from a list of options (that was in itself a vertical ladder of escalation) presented to the President by the so-called EXCOM, headed by Attorney General Robert Kennedy. Another quarantine was undertaken by the United Nations forces during the early stages of the Persian Gulf War -- although it was formally termed the Maritime Interception Operation. Directed against Iraq, the operation sought to prevent the export of oil from Iraq and the importation of virtually anything of value to the Hussein regime -- including food, weapons, manufactured goods, and so forth.

There is an interesting mirror image of the blockade/embargo/quarantine situation, and that is when U.S. forces have countered a blockade, embargo, quarantine, or act of maritime terrorism in an effort to control a regional crisis. The Berlin airlift of 1948 delivered over 1.7 million tons of food, clothing, food, fuel, and medical supplies in an effort requiring over 300,000 sorties.¹⁷ This is a scenario in which U.S. forces may play a significant role over the coming decades. There are dozens of strategic sea "choke points" around the world which can be controlled by the emplacement of land-based cruise missiles, the laying of mines and/or the operation of a handful of well-armed, high-speed gunboats. The use of diesel submarines in such a scenario is also possible. An example of countering an act of maritime terrorism was the international effort to clear the Red Sea of mines in 1984.

A third aspect of this rung in the vertical ladder of escalation is the option of conducting escort operations. This

was exercised with success by the Reagan administration in the Persian Gulf from 1987-1989 during the "tanker war," a spill-over of the long and devastating war between Iran and Iraq. Iraq was attacking shipping entering and leaving Iran, and Iran retaliated by attacking shipping transiting the Persian Gulf between Iraqi ports and the North Arabian Sea. The Iraqi attempts to sink Iranian ships and vice versa was a legitimate act of war since both were recognized to be at war. Reciprocal blockades were appropriate. However, neither party could blockade a neutral country, Kuwait, or a non-belligerent flag shipping making for Kuwait without committing an act of war against Kuwait. Kuwait was shipping oil from Iraq, and requested U.S. protection from Iranian attacks. The U.S. responded by escorting specific Kuwaiti ships that were first reflagged as U.S. tankers. but only to Kuwaiti ports. Our actions were to preserve freedom of the sea and the right of neutral Kuwait to engage in international trade. (Of course the Iranians accused Kuwait of trans-shipping Iraqi oil out to the world market). The U.S. flag on Kuwaiti ships underscored "free goods in free ships" engaged in non-belligerent trade. These actions were also undertaken as part of a sequential move up the vertical ladder of escalation after first attempting to quiet the Iranians with public diplomacy, shows of force, and demonstrations of force. The escort operations was highly successful, and has been cited by many observers as one positive element which eventually helped to bring the war to a close.¹⁸

Extraction Operations

An important level of escalation on the vertical ladder is extraction operations. This is simply removing people (or physical equipment) from a crisis arena. There are two very different types of extraction operations: Non-combatant Extraction Operations (NEO); and hostage rescue operations. NEO planning is the responsibility of the Department of State, with unified combatant commands responsible for furnishing support. Ambassadors are responsible for deciding to execute NEO plans, while the CINC has responsibility for execution of U.S. military forces used. Hostage rescue operations, on the other hand, are normally the responsibility of unified combatant commanders. Hostage rescue operations may or may not be counter-terrorist in nature, depending on whether the hostages are held by terrorists (as in the Achille Lauro incident); or by a government (as in the Iranian hostage rescue attempt).

Naturally, the most dramatic operations to rescue hostages from terrorists in recent memory was the attempted rescue of American hostages from Iranian revolutionaries in April of 1980. An example of a successful evacuation operation was the dramatic extraction of U.S. and other western citizens from civil war torn Liberia in 1990. A final example, again of a rescue operation, occurred in May of 1975, when U.S. Marines, transported by Military Airlift Command aircraft to the theater and flown in Navy and Air Force helicopters, extracted the crew of the SS

Mayaguez from captivity.¹⁹

While the distinctions between NEO and hostage rescue are important, the general **activity** on the vertical ladder of escalation, that of extraction, is consistent.

Strike Operations

Strike operations involve the application of destructive force to a specific target area. They can be classified in a wide variety of ways -- by delivery platform, by type of ordnance, by level of ordnance, by length of campaign. For our purposes, we will divide them into three levels based upon level of force and length of time involved in the strike campaign.

Low Level Strike Operations

For our purposes, low level strike operations are the delivery of ordnance on targets within the crisis arena at a level of under 100 tons of explosives and less than a 24 hour period. Such a level of strike operations can be undertaken in a wide variety of ways, from naval gunfire attack of targets in the coastal region to long range bomber strikes on targets anywhere within the crisis arena. Often such low level strike operations are necessary to convince regional actors that the United States and allied forces are indeed ready to actually undertake active hostilities in support of objectives.

Several recent examples of such low level strike operations

come to mind. An excellent example was the strikes on Libya in April of 1986, in which Navy and Air Force aircraft jointly attacked targets over 12 hour period in retaliation for the bombing of U.S. activities in Germany during the months leading up to the strike. Operation ELDORADO CANYON, as it was called, had the salutary effect of bringing Khadafy to a halt in his terrorist activities for at least two years. Another low level strike operation was the destruction of oil platforms in the Persian Gulf belonging to Iran, conducted in retaliation for the mining of international waters undertaken by Tehran during the weeks preceding the strike. Explosives and naval gunfire were used to destroy three oil platforms within a 24 hour period in the spring of 1988, although the 100 ton level was slightly exceeded. The destruction of oil platforms was quickly followed by the destruction of much of the Iranian naval order of battle shortly thereafter.

Medium Strike Operations

The next level of operations in the vertical ladder of escalation is the use of medium strike operations, defined as over 100 tons used within a ten day period. This level of strike operations begins to enter a very high level of violence, and will have a dramatic impact in the crisis arena. Again, both naval and air forces have been used in conducting a medium strike level of operations over the past two decades.

One example that comes to mind was the bombing of Cambodia

during the latter stages of the war in Vietnam. Air Force bombers pounded sanctuaries within Cambodia to prevent the resupply of North Vietnamese forces operating in South Vietnam. President Nixon, acting under strong advice from the Joint Chiefs of Staff and Henry Kissinger, ordered the bombing campaign, undertaken in several steps, generally at a medium attack level.

A second example of this medium level of strike operations was the so-called "Christmas bombing" undertaken by President Nixon in December of 1972 as he tried to force the North Vietnamese to the bargaining table to end the stalemate in Vietnam. During an ten day period, over 3,000 sorties with hundreds of thousand of tons of explosive were dropped on critical targets throughout North Vietnam.²⁰

Heavy Strike Operations

Heavy strike operations would entail the use of prolonged violent attack against many targets in a crisis arena, employing over 1,000 tons of explosives and being part of a campaign lasting over seven days. Such operations are normally conducted incident to war, and generally are used to either destroy industrial centers, break the will of a civilian populace to respond to further hostilities, or precede a major campaign on land.

A recent example of heavy strike operations, of course, was the massive strike attacks conducted during Operation DESERT SHIELD against Iraq. Thousands of tons of ordnance were expended

ruing a 35 day bombing campaign that softened the Iraqis for the actually land attack conducted against their positions in Kuwait and in southern Iraq. During the War in Vietnam, an example of a heavy strike operation was conducted as part of the response to the attack on Khe Sanh in January of 1968. During some 75 days of operations, over 27,000 sorties were flown, dropping well over 100,000 tons of ordnance on enemy positions.²¹

Seizure of Territory

The highest level in the vertical ladder of escalation is the actual insertion of troops and the seizure of territory in the crisis arena. Generally this action is undertaken as a last resort after activity at each level in the ladder of escalation has been attempted but the crisis persists. The seizure of territory can be undertaken in a wide variety of ways, including amphibious assault, airborne assault (parachute attack), vertical envelopment (heliborne assault), or overland invasion. A combination of several attack methods is used in more complex warfighting scenarios.

One recent example was the seizure of Panama in 1989, an invasion undertaken in order to end the reign of terror undertaken by the dictator General Manuel Noriega. A combination of airborne assault and vertical envelopment was effectively used to insert thousands troops (in addition to the forces of USCINCSOUTH already stationed in Panama) and essentially to seize control of the entire country for a brief period of time.

Another seizure of territory example was Operation DESERT SHIELD, in which over 500,000 U.S. and allied troops seized territory in occupied Kuwait and Iraq.

A subset of the seizure of territory option is an amphibious assault. The Navy-Marine team is the driving force in amphibious assault, and force options can be tailored to the appropriate level for a given crisis. Current Marine Corps planning revolves around forces at the level of Marine Expeditionary Units (over 2,700 personnel); Marine Expeditionary Brigades with forcible entry capability (over 12,000 personnel/amphibious warfare group); Marine Expeditionary Brigades without forcible entry capability (over 12,000 personnel/no amphibious warfare group); a heavy Marine Expeditionary Brigade (over 16,500 personnel); and the Marine Expeditionary Force, a division-wing sized team over 40,000 personnel. The mission differentiation planned for each breaks out as follows:²²

MEU: Security operations, limited objective attacks, military operations in urban terrain, reinforcement, fire support, show of force, deception, counter-terrorism, counter narcotics. All USMC MEUs are special operations capable (SOC), in that they have elements trained to undertake special operations tasking.

MEB (with forcible entry): Same as MEU plus Amphibious operations, peacekeeping, peacetime contingency, tactical deception.

MEB (without forcible entry: Same as MEU but can cover far greater objective areas.

MEB (heavy): Same as MEU/MEB but still larger objective areas.

MEF: Large force objectives at a theater level.

Additional Elements in Escalation

While not precisely on the ladder of escalation per se, four additional elements of warfighting can be important in controlling regional crisis: Electronic intrusion, combat propaganda, special operations, and aggressive intelligence gathering. All four can be applied as an additional technique at any level in the vertical ladder of escalation as desired. They are warfighting leverage items, in that they provide additional "punch" in a given situation. They can also be used as stand-alone instruments, although that is more rare. Generally, they are used as integral parts of the differing steps on the vertical ladder of escalation as required.

Electronic Warfare

An often overlooked part of the vertical ladder of escalation is that of electronic warfare. While electronic warfare generally does no permanent harm to capital stocks in the crisis arena, it can serve as a highly visible signal (at least to the national command authority in the crisis arena) of both capability and resolve.

Electronic warfare can include jamming military signals,

intelligence gathering facilities, commercial broadcasting stations (both radio and television), telephone systems, and satellite up/down links. As most countries continue to rely to a greater and greater degree on the electromagnetic spectrum for command and control throughout their societies, electronic warfare becomes a more sophisticated and viable tool of crisis response.

In addition to jamming, electronic warfare can include operations to confuse military and commercial operators by "joining" communications networks and having linguists degrade the basic functioning of information, surveillance, communications, and command/control organizations.

Electronic warfare can be accomplished with either air or sea power, or a combination. Examples include jamming or intruding on commercial communication networks from offshore navy ships, or undertaking similar operations from offshore aircraft.

Combat Propaganda

The use of combat propaganda (as opposed to public diplomacy) is not really a distinct escalatory step (in the sense of moving from a show of force to a demonstration of power), but can operate across virtually every level in the vertical ladder of escalation. Combat propaganda can be delivered through a wide variety of means, including transmission of electronic signals from offshore, overhead, or distant stations; dropping leaflets; manipulation of media either directly in the crisis arena or

through the global press; or mounting campaigns through diplomatic or cultural channels. It includes what is formally termed psychological operations (PSYOPS), although the concept included here goes beyond currently defined PSYOPS.

As a general rule, combat propaganda is controlled on a political basis. Air power or sea power are occasionally used to undertake combat propaganda. The line between propaganda and public diplomacy can be blurry, but more likely methods of executing public diplomatic campaigns would involve electronic signals sent from distant stations or media manipulation, neither of which necessarily require specific application of air and sea power. An example of combat propaganda is the distribution of leaflets in Arabic to Iraqi soldiers describing the forces arrayed against them and soliciting their surrender prior to Desert Storm.²³

Special Operations

The use of special forces to conduct a variety of missions is a superb force multiplier at any level of the vertical ladder of escalation. Special operations forces are operated by the U.S. Army Special Forces, the U.S. Navy SEALs, and Air Force Special Operations Wings, and can be inserted using air and sea power. They can undertake psychological operations, unconventional warfare attacks, and civil affairs projects. Their efforts can be clandestine or overt.

In virtually every conflict involving U.S. forces, special

operations have been used. During the recent war in the Gulf, special forces teams were used in concert with sea and air power when they were inserted on various strategic islands held by Iraq near the coast of Kuwait.²⁴ It is worth noting that marine reconnaissance units and special operations capability are associated with MEU and MEB size forces.

Aggressive Intelligence Gathering

While intelligence gathering is generally conducted in a covert fashion, aggressive intelligence collection is a step on the vertical ladder of escalation. Undertaken less for the actual information collected than to demonstrate capability and resolve, such overt intelligence collection can be conducted by both air and sea power with efficiency. Naturally most intelligence is gathered today through the use of satellite sensors. When an intelligence collection vessel arrives just outside the maritime border of a coastal crisis arena, its efforts demonstrate the seriousness of the situation to actors in the crisis. Likewise, intelligence overflights either just off the seacoast or border of a state, when highly visible (electronically or even visually) sends a distinct signal to a given station.

An example of this occurred during the Iran-Iraq War, when Iran built Silkworm missile sites along the Strait of Hormuz. Navy P-3 Orion aircraft flew many missions, under highly armed fighter escort, in international airspace just off the coast in

the vicinity of the missile installations. This sent a distinct signal to the Iranians of the degree of concern felt by the United States. It also ensure the Iranians were aware that the U.S. had highly accurate and up-to-the-minute information on the sites. Could all the information been more easily gathered by overhead sensors? Probably. But having the Orions lumbering along the coast, with their armed fighter escorts sent a highly visible and distinct signal to the Iranians. The Air Force also operates airborne intelligence gathering aircraft, including the U-2 and TR-1 strategic reconnaissance aircraft and the EC-130E/H "Compass Call" electronic surveillance (and jamming) aircraft.

Sea and Air Power in the Vertical Ladder of Escalation

Clearly, integrated sea and air power, which will be discussed in depth in the next chapter, are of great importance in controlling the vertical ladder of escalation. A cursory glance at the attached appendix provides an overview of the use of military force in regional crises over the three decades from 1961-1991. Air and sea forces have been the "force of choice" in the vast majority. The reason for their selection in regional crisis and their continuing applicability in the coming decades will be explored in the next chapter.

Appendix A: Key Regional Crises 1961-1991

1961

01/61	Laos-Thailand	Pathet Lao activity. Navy deploys two CVAs/one CVS/one Amphib Force to South China Sea.
01/61	SS Santa Maria	Terrorists seize cruise ship. USN forces force to Brazil. Terrorists surrender.
03/61	Cuba	SS Western Union detailed by Cuba. Second Fleet responds. Ship released.
04/61	Thailand	Communist activities in Laos; USAF deploys F-100/F-102 to Don Muong. Seventh Fleet flies reconn missions from CVs.
04/61	Cuba-Bay of Pigs	CV/Amphib forces stand by.
05/61	Dominican Republic	Trujillo assassinated. Amphib forces/3 CVs deployed.
08/61	Taiwan	Threat from Communist Chinese; USAF F-102s deployed
09/61	Europe	Response to Berlin Crisis. USAF deploys 7 TAC fighter squadrons. CVS Battle Group moved to NE Atlantic. Sixth Fleet forces reinforced by 33 reserve ships.
10/61	Vietnam	Insurgency continues in South; RF-101s deployed for surveillance
11/61	Thailand	Communist insurgency on borders; RF-101s deployed to Don Muong.
11/61	Vietnam	Insurgency continues. TAC combat crews deploy with 12 aircraft.
11/61	Dominican Republic	State of Emergency. CVBG/Amphib forces deploy. Amphib feints, A-4 flyovers.
12/61	Vietnam	Insurgency continues. Defoliation program testing with 6 C-123s. USN Coastal patrol operations.

1962

01/62	Dominican Republic	Coup. No response.
03/62	Guatemala	Student riots. CVA and Amphibs deploy.
04/62	Vietnam	First Marine company in country.

1962 (Continued)

05/62	Thailand	Laotian border insurgency. F-100s. Two CVs and Amphib landings.
09/62	Yemen	Civil War. USN Middle East Force increased from 3 to 4 DDs and Red Sea patrols initiated.
10/62	Cuba	Cuban Missile Crisis. SAC to alert. 1500 bombers loaded
with		2000 alert sorties flown during crisis. Reconnaissance flights. 180 USN ships (3 CVs and 60 amphib with 25,000 marines) deploy for quarantine and potential invasion.

1963

05/63	Thailand	Deployment of USA, USAF, USMC to Bangkok to support ASEAN. Two CVs and Amphib group deployed.
04/63	Haiti	Unrest throughout year. CV and Amphibs deploy. Evacuation of 2,300 civilians.
11/63	Vietnam	Overthrow of President Diem. CVs and Amphibs respond.

1964

01/64	Zanzibar	Government overthrown. Navy DD evacuated nearly 100 civilians.
01/64	Panama	Rioting in Canal Zone. Amphibs deploy
01/64	Cyprus	Renewed conflict between Greeks and Turks. Sixth Fleet responds with patrols.
03/64	Brazil	Military coup. One CVBG responds.

04/64	Laos	Pathet Lao gains. One CVBG and Amphibs deploy. Recon missions. Strikes against AA positions from two CVs.
04/64	Iran	Unrest. F-100s and C-130s deploy.
06/64	Vietnam	Insurgency continues. F-102s deploy.
08/64	Vietnam	Gulf of Tonkin incident. Four PBs sunk. Two CVs conduct strikes against North Vietnam.

1965

05/65	Dominican Republic	Unrest in the Dominican Republic. Air and Sealift of forces to stabilize situation. 2,400 evacuations. Amphibs/Airlift eventually moves nearly 25,000 military ashore. OAS takes over.
06/65	Vietnam	Deployment of Substantial Forces commences. From this point on in the analysis only a few prominent aspects of Vietnam will be considered "regional crises."
10/65	Indonesia	Rebellion. Amphibs deployed.

1966

1967

04/67	Greece	Coup. CVBG and two Amphib groups deployed to Ionian Sea.
06/67	Middle East	Six Day War. Two CVs to Eastern Med.

1968

01/68	Korea	Pueblo seized. F-100s, F-102s, F-105s, F-4s, EB-66s, and C-130s. Two CVs maintained off Korea until crew release.
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1969

04/69	Korea	Recon plane EC-121 shot down by N. Korea.
10/69	Libya	4 CVs deployed. Coups. Two CVBG and Amphibs deployed.

1970

06/70	Jordan	American hostages seized by PLFP. CVA and Amphibs deploy to Eastern Med.
09/70	Jordan	King Hussein vs Palestinian and Syrians. F-4s/C-130s to Turkey. Sixth Fleet to East Med including three CVs and two Amphib groups.

1971

12/71	India-Pakistan	Indo-Pakistani war. CVBG and Amphib force to IO.
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1973

10/73	Middle East	October War. Two CVBGs and Amphib force to Eastern Med. Third CVBG on station shortly. Major USAF airlift. Another CVBG ordered to IO/PG in response to oil embargo.
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1974

07/74	Cyprus	Coups. CVBG and Amphibs evacuate over 750.
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1975

01/75	Cyprus	One CVBG to Cyprus.
02/75	Ethiopia	Military coup. USN evacuation force in position.
02/75	Cambodia	Evac of U.S. personnel from Cambodia. 287 by USN/USMC/USAF force.
04/75	Vietnam	Evac of U.S. personnel from Vietnam. Four CVBGs, Amphib

		forces, and USAF elements from SAC, 7/13th Air Forces. 7,000 evacuated.
06/75	Somalia	Soviet missile project. Air reconnaissance sorties.
05/75	Cambodia	Mayaguez rescue operation, with Marine assault troops, SAC airlift, Navy/USAF helicopter operations, Navy/USAF attack air operations (light strike)
1976		
07/76	Kenya	Conflict with Uganda. CVBG to Western IO.
08/76	Korea	DMZ attacks. F-111s, F-4Es, B-52s. Seventh Fleet movement of one CVBG.
1977		
02/77	Uganda	Threats by Idi Amin against U.S. citizens. One CVBG to coast of Kenya.
1978		
02/78	Ethiopia	Somalia invades Ethiopia. DDs from MIDEASTFOR conduct surv.
09/78	Nicaragua	Civil unrest. DD surv ops.
1979		
01/79	Iran	Iranian revolution. F-15s to SA. Seventh Fleet movements of one CV and MIDEASTFOR patrol step up.
01/79	Cambodia	Collapse of Pol Pot regime.
02/79	China-Vietnam	PRC invades N. Vietnam. One CVBG to South China Sea.
02/79	Iran	Shah departs upon U.S. urging.
03/79	Saudi Arabia	Dispute with Yemen. E-3s to SA. One CVBG to Gulf of Aden.
07/79	Nicaragua	Civil War. AC-130s to Panama. Second Fleet movement.
11/79	Iran	U.S. Embassy seized. Sixth and Seventh Fleets respond with two CVBGs to the IO.

10/79	Korea	President assassinated. AC-130 and E-3A AWACS. Seventh Fleet moves one CVBG to Korean coast.
12/79	Afghanistan	Soviets invade. Seventh Fleet responds with two CVBGs to IO (parallel with Iranian hostage)

1980

04/80	Iran	Attempted hostage rescue. Joint warfighting force, USN Carrier launches, USAF C-130s.
10/80	Iran/Iraq	War between Iran/Iraq. E-3/KC 135s to SA. Seventh Fleet movements of CVBS in IO.
12/80	Poland	Threat of Soviet invasion. E-3A to Germany.

1981

08/81	Libya	Freedom of Navigation ops vs Libya. Two MIGs shot down.
10/81	Egypt	Sadat assassinated. E-3s to Egypt. Sixth Fleet moves one CVBG and one Amphib group to Egypt.
12/81	Korea	North Korea mobilization. B-52 practice strikes.

1982

04/82	Falklands	British attack Argentina to recoup islands. Some limited U.S. military support.
06/82	Lebanon	Israel invades Lebanon. Sixth Fleet responds with Amphib group.
08/82	Lebanon	Marine peacekeeping force briefly sent ashore.

1983

02/83	Egypt	Libyan threatening. E-3/KC-10. Sixth fleet movement of one CVBG.
05/83	Bahamas	Drug threat rising. H-1s deploy. Second fleet counter-narcotics operations support Coast Guard

06/83	Honduras	efforts. U.S. concerned over conflict with Nicaragua. Two CVBGs deployed with Battleship.
09/83	Western Pacific	KAL007 shot down by Soviet Union. Seventh Fleet response.
08/83	Sudan	Unsettled political situation. E-3 and F-15 deploy.
10/83	Grenada	Invasion of Grenada by amphibious forces with CVBG support. USAF airlift and associated support.
10/83	Lebanon	U.S. Marine peacekeeping force attacked by terrorists - 237 killed. Two CVBG response
10/83	Persian Gulf	Iranians threaten to block oil shipments through Strait of Hormuz. One CVBG and one amphib group deploy to IO.
12/83	Lebanon	Navy aircraft fired upon by AA positions in Lebanon. Two CVBGs launch strikes.

1984

02/84	Lebanon	U.S. Marine peacekeeping force withdrawn.
04/84	Persian Gulf	Iraqi antishipping campaign heats up. One CVBG in Northern IO and MIDEASTFOR begins to escort U.S. Flag merchants.
08/84	Egypt	Fears of Libyan invasion. E-3 deployment and Sixth Fleet movement.
06/84	Saudi Arabia	Iraq anti-shipping campaign heating up. E-3s deploy to SA. Persian Gulf naval squadron increases patrols.
08/84	Sudan/Chad	Fighting in Chad. E-3 to Sudan.
08/84	Red Sea	Mines found in Red Sea, laid by "Islamic Jihad" U.S. and allied minesweepers clear the region.
10/84	India	Mrs. Gandhi assassinated. Seventh Fleet response.
11/84	Cuba	Disabled merchant ship drifting into Cuban waters. USAF/USN monitoring.

1985

06/85	Middle East	TWA airliner with 104 Americans taken hostage. Sixth Fleet responds with CVBG and Amphibs.
10/85	Mediterranean	Achille Lauro captured with 80 passengers. Sixth Fleet responds with one CVBG
10/85	Mediterranean	Achille Lauro murderers captured by Navy fighters forcing down their plane.
12/85	Europe	19 killed in bombings in Rome and Vienna.

1986

01/86	Yemen	Civil war intensifies. MIDEAST USN ships respond for evacuations.
02/86	Philippines	Marcos flees. Seventh Fleet responds.
03/86	Libya	Two Libyan PBs are sunk by USN assets during freedom of seas operations off Libya.
04/86	Libya	Operations ELDORADO CANYON attacks targets throughout Libya in retaliation for terrorist acts. USN Carrier strike forces plus USAF F-111s, with tanker/electronic support.
07/86	Korea	Asian Games. One Carrier Battle Groups. USAF E3/F-16 sorties.
11/86	Philippines	Attempted coup against Aquino government. Seventh Fleet responds.

1987

05/87	Persian Gulf	USS Stark hit by Iraqi Mirage.
07/87	Persian Gulf	ERNEST WILL operations to support Kuwaiti tanker shipments. USN escort, USAF tankers, lift.
08/87	Saudi Arabia	Thousands die in clashes in Mecca.
08/87	Chad	Libyan invasion routed in Chad.

1988

01/88	Haiti	Coup. Amphib force responds,
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03/88	Honduras	remaining offshore. Rioting and instability. USAF lift. Second Fleet response.
04/88	Persian Gulf	Iranian Navy destroyed after attacking USN ships. USN attacks with some USAF support.
07/88	Persian Gulf	Vincennes incident.
09/88	Haiti	Coup replaces Namphy. Second Fleet responds.
09/88	Korea	Olympic Games. Two Carrier Battle Groups. USAF E3/F16 sorties.
09/88	Burma	Domestic unrest. Amphib group deployed by Seventh Fleet for possible evacuation.
10/88	Pakistan	General Zia assassinated.
12/88	Scotland	Bombing destroys 747 over Lockerbie, Scotland in terrorist incident.

1989

02/89	Lebanon	Civil war intensifies. Amphib force moved in place for potential evacuation operations.
06/89	China	Rioting in China/Tienamen Square. Seventh Fleet responds with one CVBG to South China Sea.
05/89	Panama	Unrest. Airlift to country. Second response with one CVBG.
08/89	Columbia	Drug Wars intensify. Second/Third Fleet operating with USCG to conduct surveillance and interdiction.
12/89	Philippines	Coup attempt. F-4s fly "persuasion" flights over rebel positions. Seventh Fleet responds with two CVBGs and two Amphib forces.
12/89	Panama	Operations JUST CAUSE, invasion of Panama. USAF airlift, tactical missions, including first use of stealth fighters in combat. USN support included coastal patrol and SEAL insertion.

1990

08/90	Persian Gulf	DESERT SHIELD. Massive all service response and buildup in response to Iraqi invasion of Kuwait from 2 August.
09/90	Somalia	NEO of U.S. and other diplomatic personnel by USMC MEU
10/90	Liberia	NEO of U.S. diplomats by USMC MEU

1991

02/91	Persian Gulf	DESERT STORM. Massive all service warfighting in response to Iraqi refusal to depart Kuwait.
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1992

05/92	Sierra Leone	NEO of U.S. diplomats by USMC MEU
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ENDNOTES

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IV. AIR AND SEA POWER

INTRODUCTION

In order to best discuss the integration of air and sea power in regional crisis control, we must first define these two concepts. Both the U.S. Navy, the obvious "owner" of U.S. sea power; and the U.S. Air Force, the "owner" of U.S. air power, have their own specialized vocabularies. These concepts are central to the entire discussion of roles and missions that devolves from a study of the integration of fundamental tools of warfighting in achieving air and sea power. In this chapter, we will examine both air and sea power, then discuss the Navy's concepts of air and sea power (including both Navy air power and Air Force air power). We will likewise discuss the U.S. Air Force's concept of air power, as well as Air Force ideas on sea power. Finally, we will discuss the development of an integrated air and sea power strike force, composed of Navy, Marine, and Air Force assets. It is this Integrated Strike Force (ISF), consisting generally of a Navy Carrier Battle Group, a Navy-Marine Corps Amphibious Readiness Group, and an Air Force

composite air wing, that can most effectively and quickly establish air and sea power in a regional crisis. Only through truly joint, integrated operational training and practice can such an integrated air and sea power strike force perform effectively in support of U.S. national requirements. But first, some basics.

What is Air Power?

Historically, a number of influential figures have defined air power (or aerospace power, as the Air Force currently calls it).¹ The first use of the term is generally accorded to H.G. Wells's War in the Air published in 1908.² The term grew rapidly in usage during World War I. Indeed, little more than ten years after the flight of the Wright Brothers, air armadas of thousands of planes were engaged in a wide variety of military uses during the European campaigns of the First World War.³

There were several extremely influential early figures in the development of air power theory. Three of the most influential were Giulio Douhet, an Italian theorist; Billy Mitchell, a maverick U.S. airman, pilot, and publicist; and Hugh "Boom" Trenchard, a British general and the generally acknowledged "father of the Royal Air Force." Each of the three discusses the concept of air power in various warfighting contexts. Douhet, taking a somewhat abstract and academic approach to air power, hypothesized sweeping strategic attacks on civilian population centers that would break the will of the

enemy. Mitchell, a true operator, discussed air power as part of a combined arms approach -- but also advocated attacks against vital centers of enemy industry and population. Trenchard, an organizer and early promoter of British air power (and, interestingly, an indifferent pilot) focused on the offensive uses of air power in a strategic sense.

In his classic essay, "Douhet, Mitchell, Seversky: Theories of Air Warfare," Edward Warner analyzes the work of two of these three early pioneers of air power.⁴ As a general comment, both Douhet and Mitchell envisaged air power as the application of military force from the air, with a particular emphasis on offensive operations and strategic bombing. Douhet in particular focused to a great degree on the application of air power against civilian populations. Mitchell was more involved in discussing the application of air power against the vital centers of the enemy than in wider varieties of military employment.⁵

It is Douhet who more clearly defines air power. In his seminal work, Command of the Air, Douhet focuses almost entirely on the offensive activity of air power. His basic definition of air power is simply the force necessary to take command of the air. Command of the air means " . . . to be in a position to prevent the enemy from flying while retaining the ability to fly oneself."⁶

While additional ideas for the application of air power gradually developed, it is important to note the solid grounding of the U.S. Air Force in offensive operations and specifically the Air Force's early focus on what is today called strategic

bombing. As General H.H. Arnold, the commander of the Army Air Forces in World War II and the father of the modern Air Force wrote in the early 1940s, "America's air doctrine for years has been based solidly on the principle of long-range bombardment. Air forces are strictly offensive in character."

One current definition of air power is the simple statement found in the Air Force's Basic Aerospace Doctrine: Air (Aerospace) power grows out of the ability to use a platform operating in or passing through the aerospace medium for military purposes.⁷ Conceptually, air power should not be divided into maritime and land-based components, but is rather part of a seamless whole that must be sequentially applied in crisis control.

Air Power is subdivided into a series of roles and missions. Again, as laid out by the Air Force's Aerospace Doctrine:

Roles	Missions
Aerospace Control Control of the Combat Environment	Counterair Counterspace
Force Application Apply Combat Firepower	Strategic Offensive Interdiction Close Air Support
Force Enhancement Multiply Combat Effectiveness	Airlift Air Refueling Electronic Combat Spacelift
Reconnaissance/Observation	
Force Support Sustain Forces	Base Operability Base Defense Logistics Combat Service Supp On-Orbit Support

In addition to these principles of warfare, the U.S. Air Force identifies eight "tenets" of aerospace power that are worth mentioning. They will be discussed later in examining the integration of air and sea power. They are:⁸

Centralized Control/Decentralized Execution: Aerospace forces must be centrally controlled by an airman to achieve advantageous synergies, establish effective priorities, and capitalize on unique strategic and operational capabilities, and ensure unity of purpose. Execution of aerospace missions should be decentralized to achieve effective spans of control, responsiveness and tactical flexibility.

Flexibility/Versatility: The unique flexibility and versatility of aerospace power must be fully used and not compromised. The ability to concentrate force anywhere and attack any facet of the enemy's power are the basis for aerospace power.

Priority: The air commander's most important decisions in warfare flow from an informed dialogue with the joint or combined commander which sets effective priorities for the use of aerospace forces. The air commander should assess the possible uses as to their importance to (a) the war, (2) the campaign, and (3) the battle. Air commanders should be alert for the potential diversion of aerospace forces to missions of marginal importance.

Synergy: Internally, the missions of aerospace power, when applied in comprehensive and mutually supportive air campaigns, produce effects well beyond the proportion of each mission's individual contribution to the campaign. Externally, aerospace

operations can be applied in coordinated joint campaigns with surface forces, either in support of surface forces or with surface forces supporting aerospace operations.

Balance: The air commander must balance combat opportunity, necessity, effectiveness, and efficiency against the associated risk to friendly aerospace resources. Technologically sophisticated aerospace assets are not available in vast numbers and cannot be produced quickly.

Concentration: Aerospace power is most effective when it is focused in purpose and not needlessly dispersed.

Persistence: Aerospace power should be applied persistently. Destroyed targets can sometimes be rebuilt by resourceful enemies. Air commanders must plan for restrikes against important targets.

All of which brings us full circle to the question of "What is Air Power?" For our purposes, which involve studying the achievement of air and sea power in regional crisis control, we will define air power as follows:

Command of the air, established by the use of air, maritime, ground, and space systems, permitting unrestricted use of the air while denying it to the enemy.

Our focus will be predominantly on naval (both Navy and Marine Corps) and Air Force aircraft. Our working assumption will be that Army aircraft are devoted to the major land battle and the establishment of absolute land power, which is beyond the

scope of this study.

What is Sea Power?

Any discussion of sea power in the modern context must begin (and some would say end as well) with Rear Admiral Alfred Thayer Mahan. At the turn of the century, in the bustling, expanding America of Theodore Roosevelt, Mahan was the chief prophet of sea power. His influence in defining sea power and its importance to the historical prominence of maritime nations (primarily Great Britain and the United States) continues to be felt in American strategy.⁹ As Margaret Sprout, herself a noted naval historian and writer, commented in the 1940s, "No other single person has so directly and profoundly influenced the theory of sea power and naval strategy as Alfred Thayer Mahan."¹⁰ Mahan simply defined sea power as the " . . . use and control of the sea,"¹¹ and moved on to his central thesis that sea power was a great factor in the history of the world -- particularly so for seafaring nations like Britain and the United States. His fundamental theory was that sea power " . . . was vital to national growth, prosperity, and security."¹² He went on to elucidate six factors that influenced the development of effective sea power for a nation: Geographical position, physical conformation, extent of territory, population, national character, and governmental institutions.¹³

While much of Mahan's work is devoted to the study of sea power as a political force and a catalyst in the achievement of a

nation's destiny, he also wrote extensively on the tactical (or what would today be termed the "operational art") side of the employment of sea power. His focus here was primarily on the value of sea power in exploiting communications, i.e. the movement of forces -- logistics in current parlance. He believed "communications" are the " . . . most important single element in strategy, political or military" and that the great advantage of sea power derives from its control of communications.¹⁴ While his work was indisputably primarily concerned with the strategic level, he also offers a good deal of useful discussion on sea power as operational art.

Sir Julien Corbett, a noted British strategist writing in roughly the same period, defined the object of naval warfare [sea power] as "directly or indirectly either to secure the command of the sea or to prevent the enemy from securing it."¹⁵ Corbett's thinking followed Mahan's in some ways, although he placed a greater premium on defensive uses of sea power, rather than the Mahanian principles of sweeping the enemy from the sea in great offensive battles. He was also discusses the concept of limited maritime war and the importance of blockade.¹⁶

Later in the twentieth century, other naval writers and strategists build on Corbett and Mahan's relatively simple definitions of sea power. Captain S.W. Roskill, a leading British naval strategist, began his **History of Sea Power** with a definition of maritime (sea) power as the ability to " . . . win and keep control of the seas for one's own use, and to deny such control to one's adversaries."¹⁷ Roskill goes on to make an

extremely salient point concerning sea power, that " . . . all visible instruments of power have in them an inherent deterrent capacity of a far more flexible nature [than nuclear deterrents or over-the-horizon threats]." ¹⁸

The Navy's current strategic approach is Naval Warfare Publication 1A, entitled Strategic Concepts of the U.S. Navy. While there is no specific definition of sea power per se, the document roughly defines what we are considering sea power as " . . . forces for the conduct of prompt and sustained combat operations at sea, including operations of sea-based aircraft and land-based naval air components -- specifically, forces to seek out and destroy enemy naval forces, and to suppress enemy sea commerce, to gain and maintain general naval supremacy, to control vital sea areas and to protect vital sea lines of communication, to establish and maintain local superiority (including air) in an area of naval operations to seize and defend advanced naval bases, and to conduct such land and air operations as may be essential to the prosecution of a naval campaign." ¹⁹ This is obviously an expanded version of the official U.S. Navy mission assigned in Title 10, U.S. Code, "Be prepared to conduct prompt and sustained combat operations at sea." The publication goes on to discuss two basic functions of the Navy, sea control and power projection. The Navy also generally ascribes to itself two other key roles, strategic deterrence (as performed by nuclear ballistic missile submarines); and sealift. ²⁰

After examining the historical and statutory roots of the

term, we can settle on a relatively simple, although sweeping, definition of sea power:

Command of the sea, established through the use of maritime, air, ground, and space systems, permitting unrestricted use of the sea while denying it to the enemy.

It is worth noting that the Navy in the 1980s, during the peak of the Maritime Strategy era, spoke often and persuasively about maritime superiority. A formal definition for it is elusive, but the general concept was similar to our concept of sea power as applied to the globe -- in other words, maritime superiority could be defined as the ability to establish sea power anywhere in the world when required.

Joint Perspective

The Joint Publication 1, Joint Warfare of the Armed Forces, focuses on developing a joint campaign that "achieves sequenced and synchronized employment of all available land, sea, air, special operations, and space forces."¹ No separate definition of air or sea power is provided, although the publication's discussion of Operation DESERT SHIELD/DESERT STORM points out that "As a first order of business the campaign fought for and gained air superiority and maritime superiority as preconditions for further operations.

By definition, joint doctrine emphasizes integration of the

various branches of the armed forces. Military strategy is defined by joint publications as " . . . the art and science of employing the armed forces of a nation or alliance to secure policy objectives by the application or threat of force." The joint definition of operational art is " . . . the employment of military forces to attain strategic goals in a theater of war or theater of operations through the design, organization, and conduct of campaigns and major operations." Joint Publication 26, *Joint Doctrine for Theater Counterair Operations*, provides some discussion of integrating air and sea power in theater operations. In particular, Joint Publication 26 develops the concept of the Joint Forces Air Component Commander (JFACC).

The JFACC is the overall commander of air activity for a joint force. Specifically, the JFACC would normally plan, coordinate, allocate, and task air forces and " . . . will recommend to the joint force commander apportionment of air sorties to various missions or geographic areas." The JFACC concept is somewhat controversial, with differing interpretations among the various services as to the authority and operational span of control of the JFACC. The concept worked reasonably well in Desert Shield/Desert Storm, although a great deal had to be worked out "on the ground," particularly between the Navy and the Air Force. The JFACC concept was supposed to allow sufficient flexibility to allow this to happen, and, given the time permitted during the build up before the shooting war started, it did. Since Desert Shield/Desert Storm, the Navy and Air Force have been working to resolve differing interpretations and ensure

the JFACC concept succeeds in future operations. This is critically important, since the JFACC concept is at the heart of integrating air and sea power.

While not specifically addressing the overall integration of air and sea power, Joint Publication 26 does briefly discuss the coordination and integration of land-based and maritime air defense. The publication calls for full integration of both land and sea-based air, and relies on the JFACC to effect the integration as part of the broader allocation of air assets throughout the theater.

While there has been a reasonable amount of discussion concerning certain aspects of integrating Navy and Air Force aircraft (with an emphasis on JFACC, compatible fuels and ammunition, and C2), there has been thus far no specific joint doctrine developed for specifically integrating air and sea power in their broad operational context for the purpose of regional crisis control.

Air and Sea Power

Note that the two definitions developed here -- of air and sea power -- are roughly parallel. Perhaps this is because the fluid mediums they operate in are in many ways similar.²² Both air and sea power result from the establishment of local domination through the physical presence of warfighting forces. Both air and sea power rely on multiple systems operating from all conceivable venues to form an integrated warfighting system.

For example, air power relies on not only airborne assets; but space systems (for surveillance, communications, and targeting); naval platforms (for sea-based air power, transport of critical logistics, air intercept control); and land-based systems (for command and control, ground control, basing and logistics). Sea power relies not only on seaborne assets; but space systems (for surveillance, communications, and targeting); air power (for support in near-land operations, early warning, tanker support); and land-based systems (for logistic support, bases, refueling depots).

Our broad hypothesis here is that the synergism of air and sea power, when properly integrated, sequenced, and synchronized, offers powerful offensive and defensive capabilities -- particularly in regional conflict. The most suitable way to do so is by developing a concept for an Integrated Strike Force, which will be discussed below. We will subsequently examine the actual execution of air/sea campaigns to establish air and sea power in regional crisis -- in the Falklands and the Persian Gulf. We will then proceed to a discussion of the application of integrated air and sea power in regional crisis at the strategic and operational art levels of warfare. Before doing so, we need to discuss the basic concept of integrated air and sea power forces that we will call an Integrated Strike Force.

Integrated Strike Force

Based on our definitions, truly integrated air and sea power

would establish command of the sea and air in a crisis arena. It would provide a secure operating region in which further forces (follow-on land forces beyond the minimal Marine Corps capability) could be introduced (if necessary) and conduct large scale operations involving occupation of enemy territory. Integrated air and sea power, when consolidated, would permit unhampered bombing of both a strategic (deep strike against enemy centers of gravity); and a tactical (on the battlefield) level. It would permit complete blockade of all ports and dominance of the littoral of a region with access to the sea -- meaning, for most countries, the end of all significant imports and exports (over 90 per cent for many countries enter and leave by sea). The vast majority of the world's nations (all save 19) depend on their access to the oceans for much of their commerce.

What level of forces are required to establish air and sea power? And what further level of force would be required to establish absolute air and sea power? The answer, of course, is that it depends on a wide variety of constraints: Availability of bases in the crisis arena, the geographic distance from the United States of the crisis arena, the level of enemy resistance (including size of opposing forces and their military capability), the geographic size of the crisis arena requiring application of U.S. military force, the length of time U.S. forces will be required to maintain air and sea power, the missions involved after air and sea power are established, whether land forces will be inserted for assault and occupation (and the size of those forces), and political constraints. In

other words, the level of forces needed to establish air and sea power in a region is very scenario dependent.

If that is the case, what can we conceptualize about capabilities required to establish air and sea power? One answer is to approach the question in the abstract and set up a single air and sea power strike force that can be used as a baseline in planning operations. This differs from the current approach, which is that each service has a variety of combat and support elements.

The Navy, of course, is built around the Battle Group, which almost always includes an aircraft carrier, a group of accompanying combatant ships, and a variety of logistic ships for fuel and supplies. The Marine Corps is centered around Marine Expeditionary Forces, Brigades, and Units (MEFs, MEBs, and MEUs). These include a variety of troop strengths, loaded on an appropriate number of amphibious assault ships, under the command of an Amphibious Group Commander. The Air Force is organized by squadron, wing, and air force. Their combat and support units are based on fixed land sites and do not deploy in the same sense that Navy and Marine forces load on ship and deploy to forward areas.

The Navy generally establishes air power by fixed wing aircraft and helicopters operating from aircraft carriers and amphibious assault ships. Aegis Cruisers and Destroyers also figure in air power with their broad-area antiair warfare responsibilities, surveillance capabilities, and sophisticated automated tracking systems. Marine air power is established by

both fixed wing aircraft and helicopters operating from ships; as well as forward deployed land-based aircraft. The Air Force establishes air power through operation of aircraft entering the crisis arena from distant land bases (either long-range bombers or through extensive tanking operations). The Air Force also takes advantage of secure land-bases in forward areas where possible to operate tactical (shorter range) aircraft.

Sea power is established by the Navy, normally by inserting Carrier Battle Groups (or Battle Forces) into the crisis arena. The Marine Corps participates in the establishment of sea power through taking control of a littoral region via amphibious or heliborne assault. The Air Force to date has played a limited role in the establishment of sea power, but has operated long range bombers and surveillance aircraft in maritime and littoral environments for attacks on shipping, antisubmarine warfare (the Army Air Force played a key role in the Battle of the Atlantic in World War II), surveillance operations, tanking and support of air power operations, and electronic warfare missions.

An integrated strike force capable of establishing air and sea power would combine elements of all these Navy, Marine, and Air Force assets. It would be supported by overhead sensors, long range land-based aircraft (P-3 Orion patrol aircraft, E-3A Airborne Early Warning AWACs, tankers, and bombers), airborne and seaborne tanker support, and afloat logistics. It would have powerful offensive and defensive capabilities that would cover the complete range of the vertical ladder of escalation discussed in the preceding chapter. Such a force would include, as a

baseline, a Navy Carrier Battle Group, a Navy-Marine Amphibious Readiness Group, and an Air Force composite wing with associated tanker and AWACS support.

This integrated air and sea power strike force should ideally "work up" together in the Navy sense of the term. This means being assembled as an integrated and identified team, with a series of initial meetings among the key commanders, down to the level of mid-grade officers in each of the component forces. These meetings would tailor existing service and joint doctrine to the expected and assigned missions the strike force would undertake. The best possible situation would be relatively long-term integration of the component forces. In other words, a specified Carrier Battle Group, Amphibious Readiness Group, and Composite Wing would be identified as a strike force. The three components would operate jointly under a single commander, selected by the CINC of the appropriate unified command. That commander, presumably a two- or three-star flag officer, would be selected, probably rotating between the Navy, Air Force, or Marine Corps, based on the character of the mission undertaken. If the mission emphasized establishment of air power and air strikes from land bases, an Air Force commander might be logical; if blockade and sea-based power projection, a Navy commander would probably be selected; if non-combatant extraction, a Marine might be chosen. A great deal of detail on the concept of the Integrated Strike Force command structure is presented in the next chapter.

The strike force would train together, brief together,

participate in exercises together, and deploy together. The Navy and Marine forces would sail to the crisis arena, and the Air Force assets would fly to the nearest base that could support operations (assuming permission to do so and a benign environment were available). Such strike forces could either deploy in the Navy-Marine sense during peacetime; be used strictly as surge forces; or some combination of both. If used strictly as surge forces, they would train and operate near the continental United States, then surge forward into regional crisis arenas as required. This would be less desirable than having the strike force train, work-up, and deploy together -- although less expensive and less demanding on personnel in the strike force. Maritime Prepositioning Ships could be "married up" with the ISF at any point in the sequencing process that made operational sense. The MPS could also exercise with the ISF. The concept of pre-positioned stockpiles of equipment and pre-developed air bases in various potential crisis centers would also fit well with the use of the Integrated Strike Force. A great deal more detail on the concept will be presented in the next chapter.

The advantages of integrating such a force are many and the synergism powerful. First, the forces would have trained, operated, and practiced together at the tactical and operational level for a period of months (or even longer) before a given deployment or operation. Many of the basic doctrinal and mechanical problems that currently tend to emerge only in the crucible of battle would have been dealt with early in the integrational association. Second, there are tremendous

advantages of scale associated with training operations undertaken by three such large components. These would include expanded use of training ranges; high levels of target and air services to practice tracking, air combat maneuvers, and tanking; communication frequency allocation savings; shared national-level intelligence and briefings; and mutual use of support assets (AWACs, bases, etc.) Third, such operations would use assets more efficiently by allowing each combat asset to do what it truly does best -- long range strike and deep penetration by the Air Force bombers, maritime air superiority by Navy fighters, surveillance by joint E-2/E-3 operations depending on terrain and scenario, and so on.²³ Fourth, such packaging would permit the use of organic strike force assets to cover shortfalls in logistics and basing. If forward bases were not available for Air Force fighters to cover Air Force land-based bomber missions, Navy fighters could provide such cover. Air control could be undertaken by Navy AEGIS Cruisers operating in the littoral areas for Air Force fighters operating overland who might otherwise lack forward air control. Fifth, such operations would result in truly viable integrated warfighting doctrine, validated in the real world by an integrated team. Sixth, the level of mobility and flexibility in such a strike force would be extremely high. Long range bombers could be overhead virtually any point on the globe in a matter of hours, followed by carrier-based aircraft within days, and Air Force and Navy aircraft (assuming forward bases for the Air Force) within a week. The flexibility of such a force would provide a seamless time-line in the crisis arena.²⁴

The President has discussed the need for the type of advantages outlined above quite clearly. On 2 August 1990, at the Aspen Institute, President Bush discussed his emerging vision of a new world order and the related military requirements that would evolve. He believes the Soviet Union (or whatever emerges from the former U.S.S.R.) will remain the key concern for the United States military; but his real focus seemed to be on third world instability and uncertainty. As he said, "In an era when threats may emerge with little or no warning, our ability to defend our interests will depend upon our speed and agility. We will need forces that give us global reach. No amount of political change will alter the geographic fact that we are separated from many of our most important allies and interests by thousands of miles of water."²⁵ The Integrated Strike Force, as a primary instrument of integrated sea and air power, is a powerful evocation of U.S. capability and resolve that can be used in potential crisis throughout the globe.

Joint Perspective on the Integrated Strike Force

Under the current system of joint command and control, what is the best way to structure the Integrated Strike Force? This is a key question, particularly in this era of increasing joint and combined operations. While the organization, training, and tasking of an ISF will be discussed in depth in later chapters, it is useful to outline the basic conceptual structure of the force here.

An Integrated Strike Force (ISF) is a type of Joint Task Force (JTF). A JTF is defined in Joint Publication 0-2 as "a force composed of assigned or attached elements of the Army, the Navy or Marine Corps, and the Air Force or two or more of these Services, that is constituted and so designated by the SECDEF, by a CINC, or by the commander of a subordinate unified command or an existing joint task force." Joint Publication 0-2 goes on to say that "a JTF is established when the mission has a specific limited objective and does not require overall centralized control of logistics. The mission assigned a JTF should require execution of responsibilities involving two or more Services on a significant scale and close integration of effort. A JTF is dissolved when the purpose for which it was created has been achieved." The best way to conceptualize an ISF is that it is a JTF that is continuously available to the warfighting CINCs and is composed of assets (CVBG, ARG, and Composite Wing) on a rotating basis. It is not mission specific, but is an available JTF for use as designated by National Command Authority. Nominally, two ISF will be continuously available, one assigned to CINCPAC and one to CINCLANT for training and reporting responsibility. The ISFs can chop immediately to any warfighting CINC for tasking upon the decision of the NCA. Think of an ISF as we have traditionally thought of a Navy Carrier Battle Group in the context of national strategy: Available on a rotating basis, able to be assigned to any CINC on an NCA decision, and immediately responsive to international crisis.

An ISF begins a cycle when units are assigned together, six

months prior to the "in chop" date of the ISF to CINCPAC and CINCLANT. The units train together, under the direction of CINCPAC and CINCLANT, for six months. They then "in chop" as the on duty ISF, and remain so for the next six months. During this time, the ISF may deploy routinely, undertake exercises in CONUS or overseas, or respond to crisis. At the end of the six months, the ISF stands down and the new ISF "in chops" to the warfighting CINC. Planning for the training, deployment, and crisis response of the ISF is the responsibility of the warfighting CINC.

In summary, the ISF concept is a new way to think about training, organizing and deploying forces. It provides highly responsive, well-trained, and completely integrated forces to the warfighting CINCS, and gives them a direct hand in the organization and training of immediate response warfighting units. The requirement for an ISF can be identified in either the deliberate planning process or the crisis action process, and is the responsibility of the warfighting CINC, as is true for any JTF as per Joint Publication 5-00.2, Joint Task Force Planning Guidance and Procedures.

The ISF headquarters organization, like any JTF, is up to the discretion of the ISF commander. A useful approach will be discussed in Chapter VI, Air Sea Battle Concepts. Typically, the ISF would have a commander, drawn from whichever service is most logical given the probable mission of the ISF during the on duty period. The commander would have subordinates in command of maritime, air, and amphibious elements, as well as a joint force air component commander to integrate air power. A logistic

commander would coordinate traditional resource efforts, although logistic support for an ISF would remain with the parent services, as is now the case. The Joint Operation Planning and Execution System (JOPES) would be used to planning, procedures, and reporting structures. The warfighting CINCs would develop standard planning products (mission analysis, staff estimates, commander's estimate, concept of operations) in accordance with standard joint doctrine.

Summary

The concept of the ISF will be discussed in greater depth throughout the rest of this work, but in summary:

An Integrated Strike Force is organized, trained, and employed by the warfighting CINC using three building blocks: A Carrier Battle Group, an Amphibious Readiness Group, and a Composite Wing. Additional Army, Coast Guard, or allied forces can be added to the basic structure, depending on the mission of the ISF. The key advantage to the ISF concept is the high degree of cohesive training and organizational readiness achieved by six months of "work ups" before chopping into a ready status. An ISF is specifically designed and trained to control the vertical ladder of escalation in regional crisis, seizing and dampening the crisis before it can escalate.

Appendix

A quick look at an integrated strike force concept:

Carrier Battle Group

Commanded by a one or two star Navy Admiral, a carrier battle group generally consists of:

- 1 Aircraft Carrier with associated Air Wing.
 - 2 Squadrons of F-14 Fighters
 - 2 Squadrons of F/A-18 Fighter/Light Attack
 - 1 Squadron of A-6 Medium Attack (plus tankers)
 - 1 Squadron of A-6E Electronic Warfare
 - 1 Squadron of S-3 Antisubmarine Warfare
 - 1 Squadron of E-2 Early Warning
 - 1 Squadron of H-3/H-60 Antisubmarine Helicopter
- 2 Cruisers with Tomahawk Strike Missiles, Air Control and Surveillance Radar, Naval Gunfire, Helicopters, Antiair Missiles
- 2 Destroyers or Frigates with Tomahawk Strike Missiles, Air Control and Surveillance Radar, Naval Gunfire, Helicopters, Antiair Missiles
- 1-2 Support Ship(s) (Fuel/Supplies/Ammunition)

Amphibious Ready Group

Commanded by a Navy Captain (an Amphibious Squadron Commander), with a Marine Colonel commanding the Marine component.

- 1 Marine Expeditionary Unit (MEU)

 - 2,700 Marines (Approx 1 Battalion)

 - Special Operations Capability

- 1 Amphibious Readiness Group Flagship -- LHD, LHA, or LPH

- 4 Amphibious Ships -- LKA (When Flagship is LPH), LPD, LSD, LST (1 or 2), with ship-to-shore capability via landing craft, LCAC, and/or helicopter

- 1-2 Support Ship(s) (Fuel/Supplies/Ammunition)

- 1 Marine Air Support Composite Squadron

 - AV-8 USMC Harriers (When Flagship is LHD or LHA) for Sea Control, Close Air Support, Combat Air Patrol

 - H-53 Helicopters for transport to the beach

 - H-46 Helicopters for transport to the beach and utility

 - H-1 Helicopters (Sea Cobra Gunship/Huey) for fire support and utility

Marine Prepositioning Ships and POMCUS equipment can provide equipment to an ARG.

Air Force Composite Wing

This is a developing concept. At this point, the basic idea is that the wing will be commanded by a one star General Officer and will contain a varied group of squadrons. Initially, the composite wings will be located at a variety of bases within the United States. The first composite squadrons will grow from existing bases where two or more types of aircraft are currently stationed together. Additionally, the Air Force is considering an "Intervention" squadron, which is closest in character to the hypothetical squadron discussed below. Eventually, some of the composite squadrons may be located abroad on U.S. bases.

From the perspective of controlling regional crisis as part of an integrated strike package discussed here, an idealized composition might include some combination of the following:

- 1-2 Squadrons F-16 Fighter/Bomber
- 1-2 Squadrons F-15 Fighters
- 1 Squadron A-10 Close Air Support Attack
- 1 Squadron F-4G Wild Weasel or EF-111 Electronic Warfare
- 1 Squadron FB-111 Medium Bomber
- 1 Squadron Heavy Bomber B-52/B-1
- 1 Mixed Support Squadron (KC-135, C-130, AWACs)

In a recently published Air Force brief on the composite wing concept, two types of wings were discussed: Air Intervention Wing, at Mountain Home Air Force Base in Idaho; and a Battlefield Attack Wing (linked to the 18th Airborne Corps) at Pope Air Force Base in North Carolina. These two wings are notionally composed as follows:²⁶

Air Intervention Wing

F-15C Air Superiority
F-15E Air Interdiction
F-16 Battlefield Attack
KC-135 Air Refueling
E-3B Command and Control
EF-111 Electronic Combat

Battlefield Attack Wing

F/A-16 Close Air Support
A-10 Close Air Support
OA-10 Forward Air Control
C-130 Intra-Theater Lift
AC-130 Battlefield Attack

Pre-existing air base facilities are available in various crisis areas (Persian Gulf, East Asia, Turkey) with the permission of the host countries.

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V. INTEGRATED AIR AND SEA POWER

Introduction

Integrating air and sea power is far more than simply pushing forces together in the battlefield. Indeed, the situations in which the United States has had difficulty in integrating air and sea power -- e.g. Korea, Vietnam (1962-1967), Desert One, Grenada -- have generally taken the approach of merely putting the forces in the same general vicinity. With the possible exception of the final years of Vietnam, only in the most recent large military operation -- DESERT SHIELD/DESERT STORM -- has the U.S. taken a more directly integrated approach to the use of air and sea power.

Eight key elements are central to integrating air and sea power in regional crisis.

The first element is the most fundamental, and consists of defining capabilities. Without a clear understanding by the warfighting chain-of-command of the true capabilities and limitations of all players in the air and sea power mix, no true integration can occur. An example of this failure occurred in the Desert One debacle, where at several stages in the chain of command no clear appreciation of the true capabilities and limitations of many aircraft involved in the operations existed.

A second element is perhaps the most fundamental principle of war: economy of force. In the context of air and sea power,

this means ensuring that overlapping mission activity is minimized on the battlefield. For example, the overall military missions must be subdivided into the elemental tasks that should occur for mission success -- reconnaissance sorties, intelligence gathering by ships and aircraft, light strike operations, amphibious landings, close air support missions, destruction of key enemy facilities and so forth. Each of the discrete steps in the operation must be conducted with economy of force, i.e. executed by the minimal sufficient level of combat power. This will ensure maximum capability is available for other aspects of the mission, e.g. the next operational step, reserve, support, and so on. It also ensures the readiness of some level of forces available to answer the inevitable mistakes that occur (Murphy's Law).

The third key element in integrating air and sea power is command and control. In many ways, of course, this is the crux of the problem. Whenever forces are integrated, the essence of execution often devolves from the success (or failure) of the command and control. This is particularly true in integrating air and sea power. The first and most obvious manifestation of this is the actual warfighting chain of command in the theater. It must be seamless, straightforward, and uncluttered by service rivalry or parochialism. The second aspect of the command and control issue is the technical means of communications between air and sea power units involved in the battle. The U.S. has suffered notable failures in both of these areas in recent crisis control incidents, Grenada being the most widely noted example.

The production of the Air Tasking Order (ATO) by a Joint Force Air Component Commander (JFACC) in the Persian Gulf was an integrating act that paid solid dividends in combat power, and will be discussed in depth later in the this chapter as we examine the Gulf War.

A fourth element of air and sea power integration is target processing. The strike capabilities presented by integrated air and sea power, especially in a relatively low-threat regional crisis, provide a wide range of options. They include shore fire support from the sea by naval gunfire, Tomahawk cruise missile strikes against tactical and strategic targets, air strikes against a wide variety of targets, and amphibious assaults. Target selection must be undertaken with a solid appreciation for the first three elements of air and sea power integration discussed above -- capabilities, economy of force, and C2. Target selection, particularly in regional crisis, must be undertaken in a carefully prioritized method that uses integrated forces based on warfighting requirements to accomplish the stated objective -- not on service desires, domestic political impact, or any other basis. Finally, target selection must be based on a clear understanding of the enemy center of gravity, what Clauswitz referred to as the hub of all power and activity. In addition to target selection, target lists and associated strike plans must be generated. Together, this targeting process is perhaps the single most important element of integrated air and sea power.

A fifth key element in integrating air and sea power is

logistics, particularly the degree of basing available in the crisis arena. The forces available, their combat power and endurance, and the military options for their use are directly tied to the logistic apparatus available both in theater and along lines of communications to the United States. The U.S. may or may not have logistic support in the crisis arena in the regional context, e.g. basing rights, overflight rights, pre-staged equipment, prepared bases. The real problems in integrating forces can occur when a lack of logistic support -- typically a lack of bases in the region -- precludes full employment of integrated air and sea forces. When bases are available, as in the Gulf War, air and sea power is far more quickly integrated and effective; conversely, when no bases are available, integration is far more difficult and creative solutions (typically the seizure of bases) must be sought, as in the Falklands.

The sixth integrating factor is the degree of sea and air control in the crisis arena. The first and primary requirement of air and sea forces is to establish integrated control of the skies and oceans in the crisis arena. As in Desert Shield/Desert Storm, "the first order of business [was] fighting for and gaining air superiority and maritime superiority as preconditions for further operations."¹ Often, the United States will find itself quickly exercising indisputable control of the air and sea. This will permit follow-on actions and support rapid accomplishment of many military missions -- as in the Gulf War. On the other hand, there will be occasions when even with

absolute air and sea control, the U.S. will be unable to impose its will quickly on the enemy -- Vietnam being the classic case. A third alternative is that air and sea control can be disputed successfully by the enemy for some period of time, as in the Falklands. In each case, the degree of air and sea control is critical to accomplishment of military missions in regional crisis.

The sequencing of forces into a crisis arena is the seventh key element of integrated air and sea power. A time line that supports the warfighting Commander-in-Chief must be developed in the early stages of the crisis. This sequence may or may not correspond with vertical escalation, but it must provide for a careful time-staged introduction of forces. As an example, initial force deployment might include long-range reconnaissance by aircraft and intelligence gathering by surface ships and submarines operating in coastal waters. The next step in the sequence might include the introduction of special forces for neutralizing important elements of enemy command and control. The next sequence might include strike operations across a wide range of targets, and include Tomahawk missiles, jamming, and aircraft strikes. How these forces are sequenced is, along with command and control, the essence of integrating air and sea power in an effective manner.²

The eighth element of air and sea power integration is conflict termination. Too often, planning takes an operation through every aspect of warfighting and dismisses conflict termination as something "for the politicians and state

department people." We are not concerned here with the political aspects of conflict termination -- those are indeed best left to politicians and diplomats. From the perspective of integrated air and sea power, however, conflict termination is a demanding task that often includes special operational considerations. Battle damage assessment, close-out operations, monitoring of cease fire situations, continuing reconnaissance, and force withdrawal are all aspects of air and sea operations that must be performed in an integrated manner. They are made more difficult because constraints are often placed on operators as a conflict approaches a conclusion (e.g. don't fire on retreating armies, accept all surrenders, redouble efforts to avoid any collateral damage). Performed correctly, war termination operations are among the most demanding and require the highest degree of integration to be successfully completed.

In any given crisis, there will be other factors that enter into play as air and sea power are deployed and integrated. These factors may be political, geographical, operational, economic, or cultural, and will vary from crisis-to-crisis. The eight elements suggested here are constants that arise in any crisis, and form a backdrop to the complex business of integrating air and sea power in regional crisis. In summary, the key elements for integrating air and sea forces in regional crises -- understanding capabilities, using economy of force, developing effective command and control, selecting proper targets, acquiring logistic support and bases, sequencing forces into the crisis arena, acquiring air and sea control, and

conducting intelligent conflict termination -- are virtual constants in the equation. While not an all-inclusive "checklist" for integrating air and sea power, these eight elements form the basis for effective planning and creative execution. In examining the Falklands/Malvinas War and the Gulf War, each of these eight elements will be analyzed for lessons in the integration of air and sea power in future regional crises.

Why Examine Air and Sea Power in the Falklands?

"What difference between **Ardent**, crippled and burning from exocet strikes, still fighting, and Sir Richard Grenville's **Revenge** all those centuries ago?"

- Admiral Sir Sandy Woodward, RN
One Hundred Days

The War in the Falklands/Malvinas Islands illustrates several prominent trends in the international security environment and is an excellent case to study in discussing the integration of air and sea power in regional crisis control. First, the Falklands/Malvinas was a war fought between two second tier powers colliding over regional issues -- essentially a resource conflict over territory, although Argentinean nationalism and domestic problems also played a role. In this regard, it echoes such conflicts as Iran versus Iraq, Israel versus Syria/Jordan/Egypt, and India versus Pakistan. It is a plausible model for many potential conflicts that lie ahead. Second, the Falklands was a war of distant intervention requiring the application of force over a considerable distance. As such, the Falklands War resembled the Gulf War and Vietnam from the perspective of the United States. Although Britain was not a

regional power in a purely geographic sense, she had longstanding concerns and commitments (notably to the Falklanders) in the region which were challenged by the Argentineans. This is a situation facing the United States in several crucial parts of the globe, notably the Middle East (Israel, Saudi Arabia and the Gulf States), Central America/Caribbean (many democratic governments throughout the region), and East Asia (Japan, South Korea). Third, the Falklands war was short, sharp, and dramatic. While some conflicts in the modern era may continue to be long wars of attrition (e.g. Iran versus Iraq), most will be short, violent wars fought with specific war aims quickly achieved (or not). This is a reflection of higher levels of weapon lethality, the impact of mass communication and instantaneous diffusion of information, the availability of negotiating fora, and the gradual decrease of human tolerance of violence in increasingly informed societies. In other words, outcomes, while violent, will generally occur quickly. Fourth, the Falklands/Malvinas War was a conflict of maneuver with a high degree of reliance attached to the air and sea forces involved. The conflict turned in large measure on the British ability to establish air and sea power in a designated region -- the crisis arena.

The Falklands War in Summary³

On the second of April in 1982, the ruling military junta in Argentina seized the Islas Malvinas, a small group of islands roughly 500 miles from the coast of South America. The

Argentines had claimed the islands, known to the British as the Falklands, for nearly 150 years. The Argentines additionally seized South Georgia island, another 800 miles away, the following day.

Britain immediately launched a task force to the islands to retake them, sending a small helicopter/sea harrier carrier group from Portsmouth on 5 April and a Commando Brigade on 9 April. (It should be noted at the outset that the small British carriers -- in reality two through-deck Cruisers -- are not comparable at all to a large-deck U.S. aircraft carrier.)⁴ The British also declared a maritime exclusion zone around the Falklands on 12 April and had nuclear submarines in position shortly thereafter to enforce it. On 25-26 April, the British retook South Georgia and damaged an Argentine diesel submarine lingering in the vicinity. On the first of May, a Royal Air Force Vulcan bomber flew from a base in the Ascension islands, over 3,400 miles north of the Falklands, to bomb Port Stanley's single runway on the main Falkland island, East Falkland. Requiring eleven enroute refuelings, this stands as the longest range air attack in the history of warfare.⁵ Also on the first of May the initial commando units were landed on the Falklands.

On 2 May, the Argentinean Cruiser General Belgrano was torpedoed and sunk by the British nuclear powered attack submarine HMS Conqueror. On 3 May, an Argentinean patrol boat was sunk north of the Falklands, and everything seemed to be going the way of the British. The following day, however, the Argentines retaliated with Super Etendard aircraft launching

AM-39 Exocet missiles at the British task force. HMS Sheffield, an advanced air defense ship, was hit and, after five hours of burning and attempted damage control, abandoned on 4 May. She was scuttled six days later.

Over the next three weeks, the British probed defenses around the islands using their air and sea forces, including shore bombardment, Sea Harrier strikes against Argentinean positions ashore, insertion of special forces, and finally full scale landings on 21 May. The Argentineans continued their attacks with long range strike aircraft, including Mirages, Skyhawks, and Super Etendards. The Argentinean strikes sank two frigates, HMS Ardent (21 May) and Antelope (24 May); one destroyer, HMS Coventry (25 May); and damaged a number of other ships in the San Carlos area. The most potentially devastating blow came with the sinking of the container ship Atlantic Conveyor on 25 May by Super Etendards. During the fire on Atlantic Conveyor, the British lost three Chinook and 15 Wessex helicopters, the bulk of the vertical envelopment force; as well as about 30 percent of the task forces stores, including the important cold weather equipment and tents. Throughout this period, Argentinean forces had suffered the loss of 25 aircraft to British defenses.

By 27 May, the British forces landed on the west side of East Falkland, rapidly flanking Argentinean defenders and moving swiftly across the main island toward Stanley. The only setback remaining for the British was an attempt to land additional troops ashore in Bluff Cove, on the eastern side of the island,

south of Stanley. The two landing ships were caught by Argentinean Skyhawks in confined water during daylight and attacked, resulting in the loss of over 50 soldiers and the sinking of one of the transports, HMS Sir Galahad (8 June).

Throughout the march across East Falkland, the British carriers Hermes and Invincible flew constant Sea Harrier strikes. At the end of May, the Argentineans attempted a final major air attack on the British forces with six Skyhawks and two Super Entendards. By this time in the engagement, the Argentineans had only a single remaining Exocet, which was wasted by an accidental shot at the still smoldering hull of the Atlantic Conveyor. The British shot down two Skyhawks and forced the Entendards to fire at maximum range, reducing the effect of their other weapons.

The final engagement of naval forces came on 11 June, when a shore-mounted Exocet was fired at HMS Exeter and HMS Glamorgan during shore bombardment. Glamorgan was hit, although damage was not serious. On 14 June, the noose of approaching Army and Marine forces closed in on Stanley and the Argentinean commander surrendered his troops.

In all, the British suffered the loss of 255 men killed and 777 wounded. The task force lost 6 ships sunk and 10 others damaged, along with the loss of 9 Harriers. The Argentinean losses are estimated at around 1,000 killed, and they lost 109 aircraft either shot down or captured on the ground.

Integrated Air and Sea Power in the Falklands

Defining Capabilities. In assembling the task force to deploy to the Falklands, the Thatcher government correctly assessed the limited capabilities available for the expedition. "The only aircraft carriers Britain possessed were **Invincible** and **Hermes**. The first was very small, the second seemed very old, and each could carry only a fraction of the aircraft of a full-size fleet carrier."⁶ Even fully loaded with Sea Harriers, the two carriers could offer Admiral Woodward, the Task Force Commander, only a minimal degree of air cover. Said Admiral Woodward: "The Argentinean Air Force must not be allowed to dominate the skies -- and to stop them we do have a small number of naval interceptor aircraft; not many, just a couple of dozen Sea Harriers, with ten more coming down in **Atlantic Conveyor**. We do have large numbers of RAF interceptors, but they are of no use whatsoever since they require large airfields to operate from **And there is no such airfield where we are going.**"⁷

The Harriers were employed in a mixture of combat air patrols and deck-launched interceptors, which together constituted the first layer of the air defense. The second layer of defense would come from surface ships carrying surface-to-air missiles, notably three modern air defence ships, **Coventry**, **Glasgow**, and **Sheffield**. Defense against air attack would thus require exceptionally well coordinated air and sea power, as

counterair operations would involve a layer of Sea Harriers for interception, a layer of area surface-to-air missiles, and finally point defense on individual ships. Fortunately for the British, the 28 Sea Harriers and 14 RAF GR-3s (a Harrier variant) possessed unique maneuvering characteristics, a well-trained cadre of pilots, and AIM-9L Sidewinder heat-seeking missiles.⁸ Not a single Harrier was lost in air to air combat. On the other hand, the British surface-to-air missiles on combatants were not particularly effective against the sea-skimming Exocet missile.⁹ On balance, the British were able to maintain a minimal level of air power over the task force and eventually carried the day, albeit with significant losses.

Likewise, from the perspective of projecting power to the shore, the British forces were spread thin and required to integrate their air and sea power effectively. There is simply no substitute for adequate numbers in warfighting, particularly as a hedge against losses, the unexpected and other hazards of warfare.¹⁰ Capabilities were limited, and resources were therefore optimized throughout the operation. The Harriers doubled as close air support and strike aircraft, while helicopters acted as transports to the shore for commandos, and army troops. Surface ships performed naval gunfire support and supported amphibious assaults.

Perhaps the major capability lacking was that of airborne early warning. The Royal Navy possessed no E-2 equivalents and as a result had no early warning of raid generation other than that from coast watching submarines and a small commando group.

They also had no airborne fighter control, all of it having to be coordinated from surface ships. A large deck carrier could have provided the badly needed airborne early warning that was ultimately jury rigged in task force helicopters.¹¹

The crux of the issue from the British perspective was really not capabilities so much as it was vulnerabilities. The British possessed sufficient capability in the abstract; but the Argentineans had the means to attack certain key aspects of the British force. Had the Argentineans been able to exploit the British vulnerabilities successfully -- by attriting the Harrier force, sinking either of the British Carriers, or using their naval assets effectively -- they could have turned back the British. While they made an attempt to exploit the vulnerabilities of the British, they just missed being effective.

Overall, the British after-action reports and memoirs indicate they were keenly aware of the capabilities (and hence the significant vulnerabilities) of their military forces. Their plans were well-defined to ensure optimization of warfighting opportunities offered by integrating their sea and air forces.

Economy of Force. Throughout Operation Corporate, the British Task Force effectively integrated air and sea power in an economical fashion. The best example of this was in the immediate area around the Falklands. By establishing sea power within 500 nautical miles of the arena of crisis, the British were able to maximize the performance of their extremely weak air arm. Had the Argentines been able to challenge the British naval forces, thus eliminating the air defense structure, they would

have been able to overwhelm the Task Force with air assets. Because the British were free to focus the efforts of all their naval forces on helping their air forces maintain tenuous air power in the region, they were able to prevail in the conflict. Conversely, had the British been unable to establish air power, they would have been unable to conduct landings and defeat the Argentine ground forces on the islands. By economically integrating their air and sea power, they were able to increase their warfighting potential in the crisis arena dramatically.¹²

The British use of the principle of economy of force was also evident in their selection of two relatively simple objectives for their limited air power: Protecting the fleet from Argentine air attack; and providing support for troops ashore. By selecting target sets to attack with integrated air and sea power that were within the grasp of their limited resource base, they achieved economy of force in the conflict. They also demonstrated economy of force in integrating air strikes with amphibious assaults. As Admiral Woodward commented, "Our plans were now simple enough. We would strike hard at Port Stanley Airfield with the Vulcan raid from Ascension first and then, at dawn, use the Sea Harriers against Port Stanley, Airfield and again at the same time as we hit the strip at Goose Green." The air strikes served to convince the Argentinians that the British intended to land at Port Stanley and would keep Argentinean attention away from special forces landings and the eventual landing on the "back side" of the island.¹³

Command and Control. The key command and control challenge

facing the British forces in their efforts to integrate air and sea power was the complete lack of an airborne early warning system. While they were able to use a system of picket ships (with air search radar) and helicopters for communications relay, they utterly lacked the 200-300 nautical mile early warning that would normally be provided by aircraft like the U.S. carrier-based E-2 Hawkeye. As discussed above, the lack of such early warning provided the Argentines with a critical advantage that almost permitted them to turn the tide of the battle through low-to-the-water approaches on the ships of the Task Force. Due in large measure to inadequate warning time, "the British Task Force was unable to achieve a sufficient level of air defense coordination to prevent a high degree of saturation by attacking Argentine aircraft."¹⁴

Communications between the ships and aircraft of the Task Force were a different story. In this case, the limited resource base actually made direct communications relatively simple. British efforts in this area were generally quite good. Control of the Combat Air Patrol (CAP) aircraft were conducted by surface ships and were very effective.¹⁵ This can be attributed primarily to the simplicity of their command structure, the relatively low number of platforms involved in the crisis arena, and their traditionally "no frills" approach to fielding forces. The British surface ships were also very aggressive in taking command of a tactical situation after attacks silenced a controlling platform. For example, when **Antrim** was badly damaged in the 21 May D-Day fracas, **Brilliant** "immediately took over the task of

fighter director for the CAP. He assumed command, as I would expect any Royal Navy officer to do, without so much as a 'by-your-leave', reacting instantly to the changing situation. We could hear them on the HF net in **Hermes** suddenly directing the Harriers."¹⁶

Problems did emerge, however, once the amphibious group approached the shore in preparation for the landing. "We were much too far away to pick up their short-wave radio signals [UHF] which were effectively only 'line-of-sight' and well over the horizon. Long-haul communications [SHF/VHF] remained available, but these are not much used for detailed battle management. Any communications between the inshore forces and **Hermes** [the command ship] would have to be by the less immediate process of satellite link or HF, which would be of pretty variable strength from among the hills of the Falklands."¹⁷

The British were creative in developing command and control "work arounds" adapted to the environment and the tactical situation. As an example, the air war was directed during the landings by a Type 22 air defense frigate, which carried new radar systems. The British developed a combined tactical picture using two sea-borne radars and were able to direct missiles against the Argentines as they entered the Falklands sound and vector Harriers on them as they exited.

In terms of integrated air and sea power, command and control was an overall area strength for the British, with the exception of airborne early warning and ship-to-shore communications."¹⁸

Target Processing. During the Falklands campaign, the British were unable to establish absolute air power. They did a reasonably good job of target selection in optimizing their limited air assets, particularly with regard to amphibious landing sites and tactical bombing attacks. The lack of land-based air precluded any sort of a strategic-level campaign, and target selection was essentially a tactical exercise.

In general, the British target selections for air power and sea power were as follows:

- o All Argentine naval assets underway in the South Atlantic
- o All Argentine air assets airborne within 100 nautical miles of the Falklands
- o Land-based strike systems: Aircraft ashore, runways on the islands, land-based surface-to-surface missile systems
- o Air defense and C3 systems on the islands
- o Close air support of land campaigns (once landings occurred)
- o Ammunition sites
- o Troop concentrations
- o Supply sites

The first three targets (naval, air, and strike assets) were selected to establish air and sea power in the crisis arena and most critically to protect the fleet. Subsequent target sets were selected to prepare the battlefield and support the land campaign.

Once targets were selected, attacks were carried out

effectively. Target lists were prioritized and assigned to both organic (Harriers) and out-of-theater (Vulcans) aircraft. Overall target processing was a successful element of integrated air and sea power in the Falklands campaign.

Logistics. In many ways, the Falklands was a war that turned on logistics. As Field Marshal Earl Wavel has commented, "The more I see of war, the more I realize how it all depends on administration and transportation. It takes little skill or imagination to see where you would like your forces to be and when; it takes much knowledge and hard work to know where you can place your forces and whether you can maintain them there."¹⁹ The British faced an immense logistic challenge, exemplified by the 12,000 nautical mile transit undertaken by the Task Force and the 7,800 nautical mile reconnaissance and long-range bombing flights made from the nearest land base, Ascension Island.

In terms of integrated air and sea power, the logistic challenges centered around providing sufficient ammunition, parts, and fuel to the Task Force. The Task Force in turn was the logistical base for the application of land power in the crisis arena. Given the lack of bases in the area, virtually all supplies had to be transported by sea, escorted by the Task Force, and generally moved within the crisis arena by already scarce air assets.

One critical support function was the presence of the "second deck." With both Hermes and Invincible, the British task force had a great deal more flexibility. "It highlighted for me once more the absolute necessity of a 'second deck',

because without the combat air patrol which now flew above us we would be very vulnerable to attack."²⁰ One carrier could assume guard duties while the other attended to logistic functions -- refueling and rearming aircraft, conducting maintenance, or completing underway refueling. This dual-deck integration of air and sea power was critical to British success.

Another logistic concern for the British was the need to permit pilots sufficient crew rest. With a limited number of Harriers available, the flying time of the sea-based pilots was stressed significantly. With a broader land and sea-based air arm, a U.S. strike force would be in a far better position. Although the British were able to overcome the problem (principally through the simple fact that the war was of short duration), a longer conflict would have been problematic for them from this perspective.

Sea and Air Control. As discussed above, the British found themselves in a fairly precarious position upon arrival in the islands. Contrary to the estimates in Whitehall, the Argentine Air Force was reasonably capable, generally well-handled, and bravely piloted. Most significantly, the British did not enjoy airborne early warning. They also suffered from a lack of sufficient number of Harriers to effect a true airborne perimeter defense of the Task Force, and thus relied on a defense-in-depth that integrated air and sea forces with reasonable effectiveness. The lack of airborne early warning also required the positioning of air defense ships on radar picket duty, where a number were effectively attacked by Argentine aircraft. Given their

handicaps, the British were not able to establish absolute air power, although they did develop the minimal level of air power necessary to complete their mission.

They **were** able to establish absolute sea power in the South Atlantic, and this permitted them to undertake further operations despite their inability to establish absolute air power. Had the Argentine Navy been successfully involved, the resulting dilution of supporting air defense and air control from the Task Force ships would have spelled defeat for the entire operation. As it was, the decision to land troops without absolute air power was risky. It was saved by the superior performance of the Sea and RAF Harriers, the selection of the landing site, the Rapier surface-to-air missile batteries, and the rapid disembarkation of the troops.

It is interesting to reflect on the performance of the single effective Argentine challenge to the British Task Force: a single diesel submarines. It took a concerted effort on the part of the British fleet to track down and neutralize this single platform, and until this task was completed, sea power in the region was not consolidated and British tactical activity was constrained.

As Admiral Woodward said, "the landing was one of my three prime tasks -- the other two being to defeat the Argentine navy and their air force, preferably, but not necessarily, beforehand."²¹ The Admiral was deeply concerned about the danger to the landing force from Argentine air, but was unable to establish full command of the air throughout the operation. He

was forced to settle for local air superiority, integrating a defense-in-depth of the landing force composed of surface ships, rapier batteries, and overhead combat air patrol. Doing so placed his ships at greater risk, but by that point in the problem the landing force had become his top priority. "This area [landing area] must be outside the range of unrefuelled Mirage, Skyhawk, and Entendard attack . . . in the early stages, this would lack good air defence and might cost us ships."²²

Overall, British consolidation of sea power was a strength; lack of air power was a weakness that almost brought the entire expedition to ruin.

Sequencing Forces. The British did a superior job of sequencing forces into the crisis arena. The initial sequencing of wide-ranging nuclear submarines into the region quickly established absolute sea power around the islands, which was the eventual basis for the victory. The lack of land-bases in the crisis arena precluded extensive strategic bombing, although several "demonstration" attacks were conducted from extreme long-range at Ascension Island. The first air action of the war, in fact, was the attack by a RAF Vulcan dropping 21 1,000-pound bombs on the airfield outside Port Stanley.²³ The Vulcans continued to fly long-range missions against a variety of targets in the islands. Their efforts represented the longest range combat bombing sorties in the history of aerial warfare through the present.²⁴

The arrival of the Task Force and subsequent efforts to establish absolute air power followed, although the British were

unable to accomplish this objective fully. Nonetheless, they were able to attrite the Argentines steadily without suffering critical losses themselves throughout the antiship attacks by Argentine long-range aircraft. Fortunately, the Argentines ran out of planes and Exocet missiles before the British ran out of ships.

An interesting sequencing of forces into the combat situation was the decision to land Special Air Service (SAS) forces on the main island to sabotage Argentine aircraft on the ground. Working under extreme pressure between the arrival of the task force and the desired landing date, the SAS forces were able to mount a successful attack on land-based air, destroying a dozen Argentine aircraft that might have made a credible attack on the landing force several days later.

The most critical sequencing decision was conducting the landings without having established absolute air power and without sufficient air support. While events proved the decision a correct one, it was an operation fraught with risk. Of interest, a great deal of the sequencing decision-making was done by the Task Force Commander Admiral Sandy Woodward: "I remember [standing in my cabin] with some cardboard and a pair of scissors, cutting out differently colored strips, representing various lengths of time. On each I wrote down a date, or an objective, or the name of a ship. Basically, it was necessary to work the campaign out backwards."²⁵ Overall, the sequencing decisions were successful and directly led to British victory.

Conflict Termination. British objectives were met by the

conclusion of hostilities. Integrated air and sea forces were able to attrite the Argentines to a degree that precluded further effective conduct of offensive operations against the British Task Force. Despite serious losses in both shipping and aircraft, British land power was able to conclude the operation with complete fulfillment of the immediate military objective, the reconquest of the Falklands and the unconditional surrender of a relatively large Argentine garrison ashore (over 11,000 troops were eventually repatriated to Argentina by the British.

Why Examine Air and Sea Power in the Persian Gulf War?

Like the Falklands, the War in the Persian Gulf serves as an archetype of one potential variant of future regional conflicts. First, it initially involved conflict between two regional states over resources, a classic type of dispute that will be increasingly common over the next decade as populations increase, arms proliferate, and resources dwindle. Second, the conflict quickly involved major powers -- in this case because of the high strategic value of the hydrocarbon resources at stake, the extremely blatant aggression undertaken by an obviously dangerous leader, the potential for proliferation of weapons of mass destruction, and the historic interest in the region by several major powers. Third, the conflict was a proving ground for many new variants of advanced weapons systems: Stealth aircraft, land-attack cruise missiles, "smart" munitions, night vision devices, area-defense anti-air weapons systems (Patriot ashore and

Aegis at sea), data-link command and control, and advanced tank-killer systems were all used with good effect. Fourth, and most importantly from a U.S. perspective, the Gulf War was a classic study in the application of integrated air and sea power in an escalated fashion to attempt to control a regional crisis. While the final outcome required the application of land power as well, the initial two phases of the campaign -- a blockade followed by devastating air assault -- form the essence of integrated air and sea power. In these four important ways, the Gulf War stands as a reasonable case study of future regional conflict.

On the other hand, the War in the Gulf was atypical in several crucial aspects, which makes it an interesting counterpoint to the Falklands crisis. First, bases were available to the United States in a region in which they are normally not available. The availability of bases made possible the ultimate use of major land power in deciding the outcome of the conflict, as well as facilitating the use of air power in the second phase of the war. Second, the circumstances surrounding the initial outbreak of hostilities were so clearly in violation of all norms of international law that it was possible for the Bush administration to form a global coalition against Iraq. It is unlikely that this will be the "normal" situation in regional conflict. As a general rule, there will be two sides to most conflicts and the chances of lining up virtually the entire world in a coalition against one side is unlikely, although not impossible.²⁶ One foreseeable activity that a nation could undertake that would incite the formation of a similar coalition

would be developing nuclear weapons and threatening to use them -- a pattern of behavior in which North Korea may persist.²⁷ Third, the region is unique in its lack of challenging topography, presenting an ideal locale for the application of integrated air and sea power (as well as providing high mobility to land power). To some degree, the additional complication presented by a more "typical" region -- mountains, rivers, vegetation, and more disruptive and less predictable weather -- must be considered in analysis.

Overall, the War in the Gulf is a valuable case study for future regional conflict, particularly in situations where an escalatory approach to the conflict using integrated air and sea power is pursued. The aspects of the conflict that are less "typical" -- availability of bases, ease of coalition formation, and lack of challenging terrain -- must be considered in weighing the lessons of the conflict, but do not obviate the value of studying the Gulf War.

The Gulf War in Summary²⁸

The chain of events leading up to the Gulf War is beyond the scope of this study. For our purposes, we shall look at the crisis as it began on 02 August 1990, when Iraqi troops invaded the Kingdom of Kuwait. According to Iraqi leader Saddam Hussein, the invasion was "to restore neighborly relations." In reality, Iraq invaded Kuwait to gain control of Kuwait's vast oil reserves, terminate outstanding war debts owed the Kuwaitis

stemming from Iraq's earlier war with Iran, obtain greater access to the Persian Gulf, gain control of strategic islands in the Northern Gulf, and strengthen Iraq's position as a regional superpower.

Kuwait City fell by noon on 02 August, and the Emir of Kuwait and most of the country's senior leadership fled to Saudi Arabia where they immediately set up a government-in-exile and appealed to the United Nations for assistance. At the time of the invasion, the only U.S. military presence in the region was the small squadron of ships assigned to Rear Admiral William Fogarty, Commander, Middle East Force. The U.S. naval forces in the Gulf on 02 August included **La Salle**, a command and control ship; **England**, a guided-missile cruiser; **David R. Ray**, a destroyer with land-attack Tomahawk missiles; and several smaller frigates.

Fortunately, a Navy carrier battle group centered on the carrier **Independence** and the Tomahawk-capable Aegis Cruiser **Antietam** were in the Indian Ocean. The battle group was immediately ordered to the North Arabian Sea and **Antietam** was detached at top speed and ordered directly to the Gulf. **Antietam** arrived in the Gulf on 06 August, and **Independence** and the rest of the carrier battle group arrived in the North Arabian Sea on 07 August. Britain and France immediately dispatched warships to the region as well.

By 04 August, the Iraqis were securely in control of the entire country and began attempts to consolidate gains by political action. On 06 August, U.S. air power moved closer to

the region with the dispatch of a squadron of F-111 bombers to Turkey. On the same day, the United Nations voted worldwide military and economic sanctions against Iraq (Security Council Resolution 661), laying the diplomatic groundwork for the successful maritime interception operation. The U.S. had deployed several additional battle groups to the Gulf, including the carrier **Saratoga**, the battleship **Wisconsin**, and the helicopter carrier **Inchon**. The carrier **Eisenhower** moved into the Arabian Sea as well. By 07 August, the Saudis agreed to full deployment of U.S. forces into the Kingdom, and on the following day U.S. F-15s and light infantry forces begin flying into Saudi Arabia.

On 12 August, President Bush announced the use of naval forces to enforce U.N. sanctions against Iraq, constituting a level of maritime interception operation very close to a blockade (although not called that) against Iraq. Throughout mid-August, the build-up continued amidst a backdrop of diplomatic maneuver and "back channel" negotiation. On 25 August, the U.N. Security Council passed Resolution 665, calling on all members to enforce sanctions by inspecting and verifying cargoes and destinations. Many nations from what came to be called "the coalition" pledged to send ships to participate in the enforcement of sanctions, including the U.S., Britain, France, Australia, the Netherlands, Spain, Greece, Argentina, Belgium, Canada, Denmark, Italy, Norway, Oman, Poland, Portugal, Brazil, Qatar, Saudi Arabia, Turkey, and the United Arab Emirates.

U.S. and coalition forces continued to pour into Saudi

Arabia in September and October. In late September, the U.N. Security Council reemphasized that only the special sanctions committee of the U.N. could authorize food and aid shipments to Iraq (Resolution 669 on 24 September); and expanded the embargo to include air traffic and authorized the detention of Iraqi ships attempting to break the embargo (Resolution 670 on 25 September). Shortly after the U.S. mid-term elections in early November, President Bush announced that he was doubling the number of U.S. troops in theater to over 400,000. He likewise doubled tactical aircraft and naval forces in the region, increasing to over 1,500 land-based aircraft and 6 carrier battle groups with over 450 additional aircraft.

The three key military tasks of this early phase of the conflict, called Desert Shield, were to deter Saddam Hussein from invading Saudi Arabia and if need be defend Saudi Arabia from an Iraqi attack; permit the full build-up of coalition forces in preparation for hostilities; and to effectively seal off Iraq and occupied Kuwait from trading with the rest of the world. Each of these tasks depended to a great degree on integrated air and sea power. The multinational force included ships and aircraft from over 20 nations, and the Maritime Intercept Operations, and they came to be called, were successful in achieving all three objectives. Despite having sufficient forces to drive south and attack Saudi Arabia and the smaller Gulf states, Saddam Hussein's forces remained on the Saudi-Kuwaiti border and dug in. Coalition ships intercepted over 10,600 ships, boarded over 1,600, and diverted to selected regional ports nearly 100 ships

from August 1990 through June 1991. Maritime Operations are continuing through the present.

From November 1990 to 15 January 1991, major diplomatic initiatives were undertaken by the west to attempt to forestall the requirement to attack Iraqi forces and liberate Kuwait by force. Nearly a dozen different peace initiatives were undertaken by the U.S., the Soviet Union, the United Nations Secretary General, the Pope, and other individuals and organizations around the world. The positions of the two sides remained intractable, however. Saddam Hussein was adamant that he would not leave Kuwait and the coalition was equally determined to see him leave and restore the legitimate government of Kuwait. By this time, two additional objectives had been articulated by the U.S. led coalition: the termination of Iraq's programs leading to the development of weapons of mass destruction; and the achievement of peace and stability in the region.

Following the failure of all attempts to negotiate a settlement, the United Nations forces commenced hostilities at 0300 local on 17 January 1991. During the first 24 hours, over 1,300 sorties were flown by coalition forces, including over 800 fixed wing strikes. A total of 668 aircraft attacked Iraq, including 530 Air Force; 90 Navy and Marine; and 36 from the U.K., France, and Saudi Arabia. The U.S. Navy additionally launched over 100 Tomahawks. These were the first of over 110,000 combat sorties and over 280 Tomahawk missile attacks against Iraqi forces. Twelve key "target sets" in Iraq and

occupied Kuwait were selected:

- o Leadership and command facilities
- o Electrical production facilities powering military systems
- o Command, control, and communication nodes.
- o Strategic and tactical integrated air defense systems
- o Air forces and airfields
- o Nuclear, chemical, and biological weapons research and production facilities.
- o Scud missile production and storage facilities.
- o Naval forces and port facilities.
- o Oil refining and distribution facilities (as opposed to long-term oil production capability).
- o Railroads and bridges connecting Iraqi military forces with logistical support centers.
- o Iraqi military units to include Republican Guard Forces in the Kuwaiti Theater of Operations (KTO)
- o Military storage sites.

Attacks on Baghdad were illustrative of truly integrated air and sea power. Throughout the war, a combination of Air Force F-117A Stealth aircraft and Navy Tomahawk missiles attacked critical, national-level targets in Baghdad. Tomahawks were fired from both coasts (Red Sea and Persian Gulf) and from both surface ships and submarines. Both the Stealth aircraft and the Tomahawks were virtually untouched by Iraqi air defenses. These efforts assured the success of the bulk of the air campaign.

Throughout the air campaign, coordinated attacks by carrier-

based aircraft and land-based aircraft (both Air Force and Marine Corps) continued to strike the twelve target sets. Eventually, U.S. air power delivered over 80,000 tons of bombs during over 44,000 combat sorties. The Air Force flew 67% of the combat sorties, with the remaining 33% flown by the Navy and Marine Corps. Coordinated air early warning was provided by both land-based E-3 AWACS and sea-based E-2 Hawkeye aircraft. Fighter support and air superiority was provided by both land and sea-based aircraft, often operating in combination. During the war, air-to-air fixed wing combat destroyed over 40 Iraqi aircraft before the bulk of their air force fled to Iran. By the 10th day of the air campaign, 27 January, absolute air and sea power were established throughout the crisis arena.

From late January, the coalition air forces began to prepare the battlefield by flying over 35,000 attack sorties in the KTO alone. These attacks were mounted by both land and sea based air, and included the active participation of heavy bombers, primarily B-52s flying along enemy front lines. By the time the ground war was launched, General Swartzkopf's assessment was that Iraqi combat effectiveness declined by a factor of one half.

The ground campaign began at 0400 on 24 February and was a short and effective operation that swept around Iraqi forces in the field, "cutting them off and killing them" as General Colin Powell, the Chairman of the Joint Chiefs of Staff, would later describe the operation. By the end of the first day, over 8,000 prisoners had been captured and coalition forces were moving rapidly through all objectives. The second day of the ground war

was equally successful, with the 1st Marine division penetrating to within 10 miles of Kuwait City. Feints and demonstrations by Navy and Marine amphibious forces along the Kuwaiti coast continued to hold down six Iraqi divisions in the East. Actual amphibious strikes were conducted against two islands in the Gulf and the 5th MEB off loaded from amphibious ships in an unopposed administrative landing and assumed a support and reserve mission for the 1st Marines.

By day three, Iraqi forces were completely routed and attempting to withdraw on all fronts toward Baghdad. The 1st Marines occupied Kuwait City and consolidated positions in the KTO, while other coalition forces drove deep into Iraq. By the end of the day over 30,000 POWs were in allied hands and over half of the Iraqi divisions were destroyed. On the fourth day, 28 February, offensive operations ceased.

Throughout the ground war, coalition air forces continued deep and close air support operations. Both Air Force and Navy-Marine aircraft provided strikes, while naval forces conducted offshore gunfire and Tomahawk strikes.

Integrated Air and Sea Power in the Gulf War

Defining Capabilities. While there was a general technical appreciation of the capabilities of the various air and sea power platforms involved in the war by the warfighting chain-of-command, some "cultural gaps" emerged in the ultimate application of the forces. All of these were overcome through determined

effort on the part of the various staffs involved in the campaign, and by the end of the sea-air campaign, a high level of integration had occurred.

The use of the Joint Force Air Component Commander (JFACC) concept created some initial difficulties between the Navy, Air Force, and Marine Corps in the early months of Desert Shield, although the six months lead time to the commencement of hostilities allowed ample time to work through all the problems. The transmission of the Air Tasking Order (ATO), the key product of the JFACC, to all the various organizations was difficult at first. This was due to communications equipment shortcomings on Navy ships (which lacked the Combined Air Force Management System (CAFMS) and certain key software available to other participants). There were also some differing perceptions of Navy and Air Force commanders as to how many aircraft should be made available daily to the JFACC and how many should remain available to individual service commanders. These were to some degree a result of low levels of knowledge about systems and capabilities on the part of the various commanders. Additionally, "the two services had very different concepts of the nature of the air campaign."²⁹ The Navy's concept entailed more flexibility and a higher emphasis on penetration of an enemy's air defense system. Its general concept for the use of air power was for fleet support, maritime air superiority, and focused land-attack -- a very tactical emphasis. The Air Force, on the other hand, has always pushed the use of air power for destruction of enemy warfighting capability, interdiction of

battlefield forces, and crushing enemy morale -- a **strategic** approach. The aircraft and land-attack maritime systems (Tomahawk, naval gunfire) reflect this divergent view of what air power can accomplish. In Desert Storm, the two services arrived at a mutually acceptable "meeting of the minds" when the relative capabilities were sorted out by the JFACC organization and flowed into the ATOs and Frags (fragments of the ATO which individual squadrons used for planning.

Additionally, data link management and control was difficult at first. The tactical data link is a multi-service system for fusing together vital information and providing a broad tactical picture for all warfighting commanders in theater. It is transmitted electronically throughout the region and displayed on consoles at the warfighting headquarters, on board ships at sea, and even on certain aircraft (AWACs) in the air. It is a vital tool to commanders in comprehending the entire scope of events in the battle. There were particular problems in the Eastern Saudi Arabian and Persian Gulf portions of the theater where Navy and Air Force systems had to fuse together to maintain the air defense picture. The primary source of problems were the result of misunderstandings concerning capabilities about certain key link platforms -- e.g. E-2 versus E-3, Aegis Cruisers versus land-based link managers.

Finally, there was an initially low appreciation on the part of some Air Force planners as to the capability of Tomahawk, particularly with respect to the high accuracy of the missile. Later, as Air Force planners gained respect for the missile's

capabilities, they failed to appreciate the length of time required to produce targeting missions.

Overall, however, the difficulties were ironed out by the top commanders and a gradually improved understanding of sister service capabilities resulted in a successful air-sea battle plan.

Economy of Force. Forces were used in the Gulf with little attention to economy of force, mainly because the level of resources was so high that an effort to maintain economy of force was less critical than it might otherwise have been. While certain assets were limited (e.g. F-117 stealth fighters, AWACS, and Tomahawk missiles), there was such a preponderance of more conventional weapons and support systems (e.g. fighters, bombers, tankers), that the U.S. ability to demonstrated economy of force measures in the campaign was never seriously stressed. Additionally, the long lead time permitted by Iraq allowed the coalition to build-up sufficient forces to overcome the need to exercise tight restraint over offensive resources.

One interesting aspect of economy of force is the need for effective battle damage assessment. "Overall, the coalition air force always found itself badly limited in its ability to assess the effect of its strikes."³⁰ The high-tech videos, while dramatic, really only showed that the bomb had hit -- not the actual damage wrought on the installation. There were too few RF-4s for strike reconnaissance or BDA, and much of the work was eventually done by Navy F-14s with TARPS pods. Satellites were also used, but were limited by timing, which opened the door to

deception schemes by the Iraqis. Some electronic BDA was available from electronically equipped aircraft. Even with many capable platforms, the on-scene commanders found it difficult to develop accurate BDA, and this resulted in some resource misallocation. Again, however, the unique situation in the Gulf War meant that this was not a great concern given the preponderance of available resources to continue waging war.

Command and Control. C2 in the Gulf was relatively efficient and effective, although cumbersome in certain operations and specific aspects. Any time a force of such magnitude is integrated for air-sea battle, some C2 difficulties emerge. The problems with setting up and running the airborne early warning operation, orchestrating the theater-wide data link, staging airborne tankers, and transmitting the ATO have been addressed above. They stemmed from dissimilar equipment, unfamiliarity with standard operating procedures between the services, geographic distances involved in the theater, the sheer size of the coalition warfighting effort, and lack of knowledge concerning specific capabilities of various platforms and equipments.

The "command" part of the C2 structure was also a problem early in the deployment. Even given the relatively streamlined U.S. CINCCENT organization (and I emphasize "relatively"), the building of the coalition provided a great deal of pressure on the command structure. How would the Saudis (the host nation) fit into the command equation? How would Arab land forces (Egyptian, Syrian) fit? Who would exercise control over Gulf

state naval vessels, allied shipping, allied warships, or allied aircraft? A separate book could be written -- and probably will be -- strictly on the command aspects of the coalition in the war. Suffice to say for our purposes here that:

- o Integrating U.S. air and sea power in the early stages of the crisis provided an effective framework upon which to build integrated coalition forces. In other words, additional forces were added to the C2 wedge that was established early in the crisis. This is very important to the thesis than an Integrated Strike Force can provide not only a tactical wedge in regional crisis, but also a command wedge upon which to build follow-on forces.

- o A great deal of time was required to smooth out the command relationships. Again, this is an important rationale for developing Integrated Strike Forces who have all such arrangements worked out in advance before arriving in the crisis arena -- a critical advantage in more time sensitive crises than we faced in the Gulf.

The most interesting C2 issue from the perspective of integrated air and sea power, of course, was the planning for the air campaign. This was the focal point around which all integration issues were raised and ultimately solved. How best to coordinate the efforts of literally thousands of aircraft, both land- and sea-based, from three services (USAF, USN, USMC) as well as Tomahawk missiles, tanking, jamming, reconnaissance, battle damage assessment, naval gunfire, Army helicopter operations, civilian air traffic and so forth? "The air force's

solution was to coordinate air activity throughout the enemy's airspace, so that airplanes for attacks against one target could be drawn from several different bases. That demanded what the air force came to call full four-dimensional (space and time) control over virtually all airplanes in the enemy's airspace."³¹ The plan was the daily ATO, and it was a difficult effort to develop it, adapt it for tri-service use, and disseminate it to all the squadrons, both ashore and afloat.

While the plan was ultimately very successful, it "carried a heavy burden of inflexibility."³² The turn-around cycle of about 48 hours was particularly hard for the Navy, which had to receive hard-copy frags on board the carriers, convert them into strike plans, and launch -- because of the lack of CAFMs. This is being corrected, but throughout the war, the Navy had a difficult time. Additionally, the ATO concept is very powerful for dealing with fixed targets in an area over which complete air power is established, but it does not allow sufficient quick response to attack mobile targets, lay out really threat-responsive combat air patrols, and take full advantage of real-time intelligence. There are ways to adapt the ATO to doing all of these things (establishing "kill boxes," providing "lanes" for strike aircraft and building CAP areas around them), but it can prove cumbersome.

One way to look at the initial controversy over the ATO concept is to say that the navy (and the marines) were more willing "to accept inefficiency as the cost of operational flexibility."³³ In Desert Storm, given the initial success to almost completely prostrating the Iraqi air defense system, the

ATO system was the best choice, and the navy/marine aircraft were adapted to it, although some aircraft were given permission to operate outside its purview (most helicopters, some A-10s and USMC AV-8Bs and some CV aircraft flying Suppression of Enemy Air Defense [SEAD] packages). In the future, the ATO approach may not always be the best choice -- many regional crises will require greater flexibility and "cockpit decision-making" (backed up with real-time C2) than an ATO will permit. This is a strong argument for the Integrated Strike Force concept, which will organize and train a joint Navy-Air Force-Marine team that can react with flexibility or execute a highly structure ATO as the situation dictates. The ATO is well adapted to will defined and predictable targets; while more flexible operations are necessary for mobile and unpredictable targets. Both have a role and our C2 systems must be ready to use both approaches in future warfighting situations.

In general, however, the C2 was effective. This was primarily due to two factors: First, sufficient time was available to work through difficulties; and second, because the C2 system was never attacked by the enemy. No jammers, intrusion attempts, or physical attacks on transmitting sites, sensor installations, or airborne C2 nodes was undertaken by the Iraqis. An entirely benign electronic environment and plenty of time to iron out the initial areas of concern combined to permit a relatively smooth C2 operation by the time hostilities commenced.

Target Processing. Target selection was conducted by a variety of agencies. The initial target list was generated by

members of the Air Force staff, with political and military guidance from various actors in Washington. An Air Campaign was developed, taking into account the target list. Strike plans and daily Air Tasking Orders were then generated by the so-called "black hole" in Riyadh (correctly known as the Strike Cell on the JFACC). Target lists were "massaged" on a daily and hourly basis as the air campaign unfolded, primarily by the JFACC. As a general comment, the target selection process had, like most successes, a thousand fathers. The targets selected were generally as follows:

- o Leadership and command facilities
- o Electrical production facilities powering military systems
- o Command, control, and communication nodes.
- o Strategic and tactical integrated air defense systems
- o Air forces and airfields
- o Nuclear, chemical, and biological weapons research and production facilities.
- o Scud missile production and storage facilities.
- o Naval forces and port facilities.
- o Oil refining and distribution facilities (as opposed to long-term oil production capability).
- o Railroads and bridges connecting Iraqi military forces with logistical support centers.
- o Iraqi military units to include Republican Guard Forces in the Kuwaiti Theater of Operations (KTO)
- o Military storage sites.

In The Commanders, Bob Woodward describes the initial targets as:

- Command, control, and communications systems
- Air defense systems and radar
- Airfields used by Saddam's 800 combat planes
- Main SCUD missile-launching sites
- Iraq's nuclear weapons program sites throughout the country
- Production and storage facilities for chemical and biological weapons
- Eight Republican Guard divisions
- The supply network -- storage depots, ammunition dumps, transportation hubs, roads, bridges, and railroads
- Petrochemical facilities, including three refineries
- The electrical power system
- Other industrial war-supporting facilities
- The 400,000 troops occupying Kuwait³⁴

In summary, these targets were attacked by an integrated force of air and sea assets. They were selected as part of an overall air campaign which was submitted by the Air Staff in Washington to the warfighting CINC, reworked by his staff, and finally smoothed "on the ground" in Saudi Arabia in the "black hole." Targets were assigned via the ATO and Strike Plans. Target processing was an overall strength for the operation, and the enormity of the available assets (well over 2,000 aircraft) helped ease the choices for planners.

Logistics. In general, the logistic efforts undertaken in

the Gulf were a success. Over 600,000 U.S. troops, thousands of aircraft, tanks, combat vehicles, support equipment, millions of tons of supplies, and hundreds of ships were moved into the crisis arena over a relatively brief period. The perception of success surrounding the logistical effort, however, must be tempered by the realization that Hussein permitted an unhampered build up to occur. Had the extensive period for the deployment not been available, the resulting tactical situation might have been far worse. In essence, the logistics train was stressed by distance, but not particularly by time.

Additional difficulties included problems activating some ready reserve force ships on time and the mix of ships in the ready reserves was not optimal for the operation. Airlift did not initially move a full predicted capacity. And no second crisis emerged to fully stress the system. Nonetheless, the overall logistics effort was a success that permitted relatively rapid integration of air and sea power in the crisis.

One of the most important logistic challenges during the war from the perspective of air-sea power was airborne tanking for Navy aircraft operating from carriers at sea. The "long pole in the tent" for complete use of CV aircraft over Iraq and even Kuwait was aerial tanking, a responsibility of the Air Force. The CVs were moved into the Gulf as a means of easing the shortage of tanker availability and putting more Navy aircraft over the beach as "available sorties" for the JFACC. This was the key determinant-factor in utilizing USN aircraft in the air campaign.³⁵ Many difficulties were encountered in the refueling

problem, but were eventually solved with additional assets, practice, and enhanced command and control attention to the problem.

Sea and Air Control. Sea and air control were quickly established in the Gulf War. These were well sequenced operations, with sea control established immediately after the operation by virtue of the Commander, Middle East Force ships on station and the presence of a Carrier Battle Group in the North Arabian Sea within several days of the invasion. From a sea control perspective, the single problem was the success of Iraqi mining operations, which forced the expenditure of significant resources to track, identify, and clear mine fields, affected operational planning for amphibious landings, and caused significant damage to two U.S. ships, *Princeton* (and *Aegis* Cruiser) and the helicopter carrier *Tripoli*.

Air control was quickly seized over allied territory with the indigenous forces and the rapid arrival of U.S. fighters and support aircraft. Upon commencement of hostilities in January, coalition forces were able to seize air control throughout the crisis arena within 48 hours. The absolute air and sea control established by coalition forces led to a successful application of land power in the offensive campaign to retake Kuwait and resolution of the crisis.

Sequencing Forces. A superb job of sequencing forces into the crisis arena was undertaken in the Gulf, made easier through the acquiescence of indigenous powers in providing bases. Initial forces on station were the already-present ships of the

Navy's Middle East Force. Within three days, a Navy Carrier Battle Group and associated air wing was on station in the North Arabian Sea and a similar group poised in the Mediterranean. As soon as local countries would permit it, U.S. aircraft were flown into the region, including Air Force, Marine Corps, and Navy shore-based aircraft. Shortly thereafter, three Carrier Battle Groups, ten Air Force wings, 200,000 troops and all associated equipment were added to the forces in the region. When the President expressed a desire to have a winning offensive option, these forces were essentially doubled from November 1990 to January 1991. When hostilities commenced in mid-January, an enormous level of force had been successfully sequenced into the crisis arena.

Key factors that permitted the success of this element of the air-sea integration process were:

- 1) The existence and immediate availability of a superb series of on-shore logistic bases, including 20 major air bases, numerous support depots, outstanding port facilities, and ramp space for over 3,000 aircraft -- and most importantly coupled with host nation willingness to permit their use.

- 2) The willingness of Iraq to acquiesce in the build-up process, choosing to allow forces to flow unimpeded into the region (although their options were limited as the build-up moved toward fruition, they could have challenged the process on the ground early in the crisis, rolling over thin U.S. and Saudi ground defenses and attacking the building air armada "on the flight line").

2) Availability of fuel due to the nature of the petroleum industry in the region, although this is somewhat of an oversimplification.

3) Presence of a sophisticated maritime prepositioning capability in nearby Diego Garcia.

Despite a failure by the Iraqis to stress the sequencing process, it was, along with logistics and air/sea control, a key element of coalition success in Desert Shield/Desert Storm.

When actual hostilities commenced, forces were sequenced in combat in a very efficient manner, beginning with B-52G Air Launched Cruise Missile attacks, F-117 stealth fighter strikes, and ship-launched Tomahawk missile launches against command and control sites.³⁶ The extensive air campaign followed, employing Air Force, Navy, and Marine (and coalition) aircraft against a wide variety of targets in Iraq and Kuwait. Land forces followed in a highly mobile attack against the Iraqi Army, with amphibious forces conducting an effective feint against the Kuwaiti coast.

The superb sequencing of forces, both in deployment/preparation and in actual combat was highly successful.

Conflict Termination. While somewhat controversial (in that Saddam Hussein remains in power), the conflict termination at the battlefield level in the Gulf War was conducted efficiently from an air-sea power perspective. Respective air and sea forces immediately disengaged from warfighting and went into a ready posture. Their presence in theater over the next several months was a stabilizing influence that permitted both the initial

enforcement of the surrender, as well as the continuing enforcement of sanctions against the Iraqi regime.

Conclusions

In both the Falklands and the Gulf War, air and sea power were reasonably well integrated to accomplish mission objectives. In both cases, initial problems with defining capabilities and applying them to warfighting scenarios were overcome, as were problems with command and control. Target selection in both cases was conducted well, and logistics, although challenging, were assured by domination of air and sea lanes to the crisis arena. The sequencing of forces was intelligently conducted, and conflicts were terminated using the ability of air and sea power forces to ensure agreements were honored and the situation stabilized.

The broad lessons of the two wars for integrating air and sea power in regional crisis include the following:

Early and accurate assessments of combat capabilities and vulnerabilities must be made by planners. Of critical importance, air and sea power forces must physically train and operate together, learning the culture of each other's equipment, operational modus operandi, and organizations.

Forces must be economically employed. Particularly in an era of dwindling defense resources, forces must be used judiciously in order to assure no wasteful dual-targeting or excessive use of surveillance, tanking, and other support

resources. A related aspect of economy of force is ensuring "blue on blue" friendly fire incidents are reduced to zero -- or as close to that goal as training, integration, and identification technology will permit. A "zero defect" mentality must be applied in this aspect of warfighting.

Command and Control must be seamless, compatible, and reflect a unified command structure. The Joint Force Air Component Commander concept must be employed to intelligently use air power, and sea power must be integrated early into the problem. Carrier air power must be used in a seamless C2 scheme that incorporates land-based air power and sea power.

Logistic efforts will fail unless virtually total air and sea power is established. The British came close to failure in the Falklands through their inability to completely dominate the crisis arena in the air. The coalition succeeded due to its command of air and sea. Logistic resupply is not always a permissive evolution.

The key to crisis control is sequencing forces. The right mix of air and sea power must be quickly and continuously applied in crisis control -- as was demonstrated by the British in their early seizure of sea control and their continuing contest to get air control over the crisis arena.³⁷ This process was particularly smooth in the Gulf War, largely due to the permissive character of the Iraqi regime, which generally chose to allow the build-up to proceed without attack.

Target selection is driven by the need to first establish air and sea control. Without absolute air and sea control,

proper sequencing of forces, logistics, and C2 nodes will be vulnerable. If sequencing, logistics, and C2 are under active and successful attack -- often the case in situations where air and sea control are **not** established first -- the likelihood of successful crisis resolution is minimal. After air and sea control are established, the air-sea battle plan can take alternate approaches, attacking operational forces in the field, power and water grids, enemy C2 or logistics, or some combination.

Conflict termination must permit either continued air and sea control or immediate re-seizure of air and sea control. Like a reflash watch posted on a fire, the sine qua non of immediate quenching of a resurgent enemy is air and sea control. It is critical to maintain air and sea control (as is the case in both Iraq for the U.S. and the Falklands for the British today).

Appendix A

British Air and Sea Forces in the Falklands Campaign

Warships

Aircraft Carriers	Hermes	28,700 Tons 12 Sea Harriers 18 Sea King helos
	Invincible	19,810 Tons 8 Sea Harriers 12 Sea King helos
Destroyers/Frigates	Most with antiair missiles	
	Bristol	7,100 Tons 1 Wasp
	Antrim	6,200 1 Wessex helo
	Cardiff Coventry Exeter Glasgow Sheffield	4,100 Tons 1 Sea Lynx helo
	Brilliant Broadsword	4,000 Tons 2 Sea Lynx
	Active Alacrity Ambuscade Antelope Ardent Arrow Avenger	3,250 Tons 1 Sea Lynx
	Argonaut Penelope Minerva	3,200 Tons 1 Wasp
	Andromeda	2,962 Tons 1 Sea Lynx
	Yarmouth Plymouth	2,800 Tons 1 Wasp

Ice Patrol Ships	Endurance	3,600 Tons
	2 Wasp	
Submarines	Spartan	4,500 Tons
	Splendid	
	Conqueror	4,900 Tons
	Valient	
	Courageous	
	Onyx	2,410 Tons
Amphibious Ships	Fearless	12,120 Tons
	Intrepid	4 LCU
		4 LCVP
		5 Wessex
		700 Troops
	Sir Bedivere	5,674 Tons
	Sir Galahad	530 Troops
	Sir Geraint	
	Sir Percivale	
	Sir Tristram	
	Sir Lancelot	

60 Additional ships accompanied the task force. They included supply ships, troop transports, oilers, supply and support vessels, and a number of ships "taken up from trade" for the crisis -- including, most notably, the 67,000 ton luxury cruise liner QE2.

Aircraft

Over 170 aircraft were deployed, most attached to ships in the task force. Some were transported south and operated from shore bases. Several Royal Air Force long range bombing raids were conducted from bases at Ascension Island.

Sea Harriers	4 Squadrons
Sea Kings Mk IV	2 Squadrons
Wessex V	3 Squadrons
Sea Kings Mk II	3 Squadrons
Sea Kings Mk V	1 Squadron
Wessex III	1 Squadron
Lynx	1 Squadron
Wasp	1 Squadron

Appendix B

United States Air and Sea Forces in the Persian Gulf War

Warships

Carriers	Saratoga Midway Ranger Independence America John F. Kennedy Dwight D. Eisenhower Theodore Roosevelt	80+ Airwing
Battleships	Missouri Wisconsin	16-inch guns 5-inch guns Tomahawk missiles Harpoon missiles
Aegis Cruisers	Antietam Mobile Bay Bunker Hill Philippine Sea Valley Forge Princeton Normandy Thomas S. Gates San Jacinto Ticonderoga	Tomahawk missiles Harpoon missiles Standard missiles 5-inch guns 2 LAMPS III helos
Nuclear Cruisers	Virginia Mississippi South Carolina	Tomahawk missiles Harpoon missiles Standard missiles 5-inch guns
Cruisers	Horne Jouett Biddle Worden Richmond K. Turner England Sterret	Standard missiles Harpoon missiles 5-inch guns
Destroyers and Frigates	Fife DD Oldendorf DD Hewitt DD Curts FFG Sampson DDG Thomas C. Hart FF Harry W. Hill DD Paul F. Foster DD	See below

Jarrett FFG
 Francis Hammond FF
 Goldsborough DDG
 Brewton FF
 Reasoner FF
 Preble DDG
 William V. Pratt DDG
 Halyburton FFG
 Moosebrugger DD
 Samuel B. Roberts FFG
 Scott DDG
 Tattnall DDG
 John Rodgers DD
 John L. Hall FFG
 Paul FF
 Caron DD
 Hawes FFG
 Vreeland FF
 Kidd DDG
 Jarrett FFG
 McInerney FFG
 David R. Ray DD
 Leftwich DD
 Reid FFG
 Vandegrift FFG
 Rentz FFG
 Nicholas FFG
 Robert G. Bradley FFG
 Marvin Shields FF
 Barbey FF
 Ford FFG
 Taylor FFG

DD	Tomahawk missiles Harpoon missiles 5-inch guns 2 LAMPS III helos
DDG	Standard missiles Harpoon missiles 5-inch guns
FFG	Standard missiles Harpoon missiles Oto Malara gun 2 LAMPS III helos
FF	Harpoon missiles 5-inch guns 1 LAMPS I helos

Command Ships

Blue Ridge LCC
La Salle AGF

Amphibious Ships

Inchon LPH
Nashville LPD
Whidbey Island LSD
Newport LST
Fairfax County LST
Okinawa LPH
Ogden LPD
Durham LKA
Fort McHenry LSD
Cayuga LST
Nassau LHA
Guam LPH
Iwo Jima LPH
Shreveport LPD
Raleigh LPD
Trenton LPD
Pensacola LSD
Portland LSD
Gunston Hall LSD
Saginaw LST
Spartanburg County LST
Manitowoc LST
La Moure County LST
Tarawa LHA
Tripoli LPH
New Orleans LPH
Vancouver LPD
Denver LPD
Juneau LPD
Anchorage LPD
Germantown LSD
Mount Vernon LSD
Mobile LKA
Barbour County LST
Frederick LST
Peoria LST

Additionally, 33 support ships included AOE (resupply), AOR (resupply), AO (resupply), AE (ammunition), MSO (minesweeping), MCM (minesweeping), AFS (resupply), AD (repair), AR (repair), ATS (salvage tug), and two hospital ships.

Aircraft

Naval

F-14 Fighter	14 Squadrons (280 A/C)
F/A-18 Fighter/Attack	13 Squadrons (260 A/C)
A-7 Light Attack	2 Squadrons (20 A/C)
A-6 Medium Attack	10 Squadrons (70 A/C)
E-2 Air Early Warning	8 Squadrons (40 A/C)
EA-6 Electronic War	8 Squadrons (30 A/C)
S-3 Support/ASW	7 Squadrons (40 A/C)
H-3 Helos	8 Squadrons (50 A/C)
H-53 Helos	8 Detachments (15 A/C)
H-46 Helos	7 Detachments (15 A/C)
(M)H-53 Helos	37 Detachments (50 A/C)
H-2 Helos	9 Detachments (10 A/C)

Air Force

F-15C/D Interceptors	120 Aircraft
F-15E Strike Bomb/Int	48 Aircraft
F-16 Fighter/Bomb	249 Aircraft
F-117 Light Bomb	45 Aircraft
F-111E Medium Bomb	60 Aircraft
F-111F Medium Bomb	60 Aircraft
B-52G Heavy Bomb	80 Aircraft
A-10A Ground Attack	132 Aircraft
OA-10 Fwd Air Cont	10 Aircraft
EF-111A Electronic War	18 Aircraft
F-4G Electronic War	48 Aircraft
RF-4C Reconnaissance	18 Aircraft
EC-135 Electronic War	2 Aircraft
E-8A JSTARS	2 Aircraft
KC-135/KC-10 Tankers	195 Aircraft
C-130 Transport	146 Aircraft

Many additional aircraft operated in support entering and leaving the theater. These were aircraft actually deployed to the theater of operations.

Marine

F/A-18 Fighter/Attack	6 Squadrons (100 A/C)
AV-8B Ground Attack	4 Squadrons (50 A/C)
A-6E Medium Attack	2 Squadrons (20 A/C)
EA-6B Electronic War	1 Squadron (4 A/C)
OV-10 Fwd Air Cont	24 Aircraft (100 A/C)
KC-130	2 Squadrons (10 A/C)
AH-1W Helo gunship	50 Aircraft
AH-1J Helo gunship	25 Aircraft
UH-1 Helo troop carrier	50 Aircraft
CH-46 Helo troop carrier	120 Aircraft
CH-53 Helo troop carrier	80 Aircraft

Endnotes

1. Joint Warfare of the U.S. Armed Forces, Joint Publication 1, U.S. Government Printing Office, Washington, DC, December 1991, p. 66.
2. Synchronization of forces in the theater of operations is integration, and is thus not treated as a separate element upon which the success of integrated air and sea power turns.
3. A variety of works have been used to draft this brief summary of the Falklands War. The two best were Max Hastings and Simon Jenkins, The Battle for the Falklands, New York: Norton and Company, 1983; and Richard Natkiel and Antony Preston, Atlas of Maritime History, New York: Gallery Books, 1987.
4. Captain Spence Johnson, USN, interview, National War College, Washington, DC, April 1992.
5. Admiral Sandy Woodward, One Hundred Days, Annapolis: U.S. Naval Institute Press, 1992, pp. 132-133.
6. Max Hastings and Simon Jenkins, The Battle for the Falklands, New York: W.W. Norton, 1984, p. 83.
7. Woodward, Op.Cit., p. 99.
8. Bruce Watson and Peter Dunn, Military Lessons f the Falkland Islands War, Boulder, Colorado, Westview Press, 1984, p. 42.
9. Watson and Dunn, Op. Cit., p. 25.
10. Jeffrey Ethell and Alfred Price, Air War South Atlantic, New York: Macmillan Publishing Company, 1983, p. 43.
11. Captain Spence Johnson, USN, interview, National War College, Washington, DC, April, 1992.
12. Ibid.
13. Woodward, Op.Cit., pp. 132-133.
14. Watson and Dunn, Op. Cit., p. 23.
15. Woodward, Op.Cit., p. 253.
16. Woodward, Op.Cit., p. 255.
17. Woodward, Op.Cit., p. 251.
18. Ethell and Price, Op. Cit., p. 4.
19. Ethell and Price, Op. Cit., p. 129.
20. Woodward, Op.Cit., p. 137.

21. Woodward, Op.Cit., p 184.
22. Woodward, Op.Cit., p. 225.
23. Watson and Dunn, Op. Cit., p. 43.
24. Ibid., p. 43.
25. Admiral Sandy Woodward, Op.Cit., pp. 91-92.
26. Saddam Hussein's incredibly inept handling of the political side of the war led to the formation of the coalition against him. Another scenario in which such a coalition again might form would be against North Korea if they persist in the pursuit of nuclear weapons and aggressive posturing against South Korea.
27. David Sanger, "Cheney, in Korea, Orders Halt to U.S. Pullout," New York Times, 22 November 1991, p. 1.
28. Material in this summary is drawn from several unclassified sources, including: Norman Friedman, Desert Victory: The War for Kuwait, Annapolis, Maryland, U.S. Naval Institute Press, 1991; Conduct of the Persian Gulf Conflict: An Interim Report to Congress, Washington, D.C., U.S. Department of Defense, 1991; and Reaching Globally, Reaching Powerfully: The United States Air Force in the Gulf War, Washington, D.C., Department of the Air Force, September, 1991.
29. Norman Friedman, Op.Cit., pp. 170-171.
30. Friedman, Op.Cit., p. 186.
31. Friedman, Op.Cit., p. 172.
32. Ibid, p. 173.
33. Ibid., p. 174.
34. Bob Woodward, The Commanders, New York: Simon and Schuster, 1991, pp. 330-331.
35. Captain Spence Johnson, USN, interview, National War College, Washington, DC, April, 1992.
36. "Air Force Launched 35 ALCMs on First Night of Gulf Air War," Defense Daily, 17 January 1992, p. 88.
37. Captain Spence Johnson, USN, interview, National War College, Washington, DC, April, 1992.

VI. AIR-SEA BATTLE CONCEPTS

Clearly, integrated air and sea power will have a key role in meeting future U.S. security requirement, particularly in regional crisis control. After examining the evolving global security environment, the current and predicted force structure of the U.S. military establishment, and the historical perspective afforded by examining the Falklands and Gulf Wars, an Air-Sea Battle concept begins to take shape.

The intention in this study is not to develop specific, detailed tactical doctrine. Nor is it to describe air-sea battle concepts that would pertain in a global war. It is rather to discuss the integrated use of air and sea power in regional crisis control, the most likely scenario facing the U.S. military for the near-to-mid term period of 10-20 years. The focus in this chapter will be at the operational level of war, defined by joint doctrine as "the level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operation [crisis arenas in our context]." (JCS Pub 1-02) The basic thrust of this discussion will be the employment of forces at the size of Integrated Strike Forces (or larger) operating in large crisis arenas. Air and sea forces under discussion will include U.S. Navy, U.S. Air Force, and U.S. Marine Corps, the primary components of air-sea battle. The use of U.S. Army and allied forces will also be briefly discussed.

In particular, we will focus on the five keys to war: Training, Deployment, Scouting, Targeting, and Striking. For our purposes here, **Training** includes all preparations leading to the constitution of a force-in-being, prepared to conduct prompt and sustained combat operations. **Deployment** is the logistics support and ultimate movement to a crisis arena and the positioning of forces within that arena. **Scouting** includes the actions undertaken to ascertain the identity of all air, surface, and subsurface contacts within a specified geographic portion of the crisis arena. Scouting also includes battle damage assessment, which is scouting conducted after force has been applied to a target. **Targeting** is the bringing to bear of combat elements capable of applying lethal force to specific structures, geographic areas, and concentrations of men and material. **Striking** is actually concentrating firepower [attacking] on targets.

In each of these five key areas, we will discuss integrated air and sea power in regional crisis.

Training

The real essence of integrating air and sea power is the conduct of efficient training. Obviously, a great deal of training occurs at a single-service level. This is where pilots learn to fly, surface warfare officers learn to shoot Tomahawk missiles, marines to fire machine guns and so forth. These basic building blocks are assumed to be conducted well by the

individual services, meaning that each single-service command -- a squadron of F-15s, an Arleigh Burke destroyer, a marine battalion -- is a combat capable element, assembled, equipped, motivated, and ready to fight.

It is at the next level of integration that our discussion begins.

Currently, within each service, there is an assembly of combat capable elements into larger groups. In the Navy, there are Carrier Battle Groups; in the Air Force, tactical (and soon, composite) wings; and in the Marine Corps, Marine Expeditionary Units. In assembling these larger groups, each service conducts further training and assessment. This is the part of the current training sequence that would benefit the most from the integration of air and sea power.

In a previous chapter, we discussed the Integrated Strike Force (ISF), a conceptual grouping of a Navy Carrier Battle Group, an Air Force Composite Wing, and a Navy-Marine Corps Amphibious Readiness Group with its embarked Marine Expeditionary Unit. The notional training of that Integrated Strike Force is the first building block in the development of Air-Sea Battle Concepts.

How would such an Integrated Strike Force be formed? While a great deal will depend on the ultimate force structure of the U.S. military, one possible conceptual approach follows:

- o Ideally, two Integrated Strike Forces would be prepared for immediate combat at all times, one for each coast, reporting to USCINCPAC and USCINCLANT. These would be either forward

deployed or maintained in a surge-readiness posture for roughly 180 days. If another CINC required use of the ready ISF, it could be chopped to him by the authority of the NCA (President/Secretary of Defense).

- o Integrated Strike Forces would be formed of units rotating together into a training phase; then into a deployment or surge-readiness phase; then a stand-down phase.

- o Obviously, this would necessitate two ISFs per coast, a significant percentage of overall U.S. warfighting capability. This is justified given that the vast majority of future contingencies will be conducted at the level of an ISF.

- o At the time of an ISF entering its training phase, it would become a joint task force and fall under COCOM (Combatant Command) of either a Navy, Air Force, or Marine Commander, with a deputy from one of the other services. (According to joint doctrine, COCOM may be exercised by a CINC through the commander of a joint task force who reports directly to the CINC - JCS Pub 0-2). This individual would remain in command until the components completed either forward deployment or surge-readiness. Upon entering a stand-down phase, the unit would return to its normal chain-of-command, being released from the joint task force.

- o If an ISF was deployed to a conflict requiring more ground troops than currently assigned, additional Army troops could be attached to the ISF as necessary.

- o If a lower-level contingency erupted, the forward deployed or surge-ready ISF would send a subset of its combat

power to handle the contingency as appropriate. If a higher-order contingency emerged, the ISFs could be deployed to the region together as a wedge until further assets were dispatched.

Note that I am not advocating the creation of a new CONUS-based CINC for contingency operations. I believe it is better to maintain the broad geographical focus of the current Unified Command Plan. An ISF should be developed in parallel for each coast, under the guidance of the two current CONUS CINCs: CINCLANT and CINCPAC. This would permit each ISF to be drawn from forces with geographical experience and covers the need to handle simultaneous crises or multiple contingencies.

Training for the Integrated Strike Forces would be constant and continuous, both during the actual training phase and during forward deployment or surge readiness. Training would be the responsibility of the USCINCLANT or USCINCPAC, who could draw on service assets as desired, or request training be conducted by a different CINC. The training would be in accordance with an appendix to the current Joint Doctrine for Joint Task Forces, drafted with the ISF concept in mind.

The training package for the Integrated Strike Force should consist of roughly 180 days of meetings, conferences, tactical reviews, intelligence assessment, and most importantly, exercises conducted at all levels of complexity. The training would encompass work at the tactical level initially, then focus on the operational level of war. A rough conceptual sequence might include:

Prior to Stand up: Develop Mission Analysis for
given ISF/Draft Planning Guidance
(USCINCLANT and
USCINCPAC Staff)
Select and brief ISF Commander
Select and brief ISF Deputy
Identify assets to compose ISF
Specify Mission (Deploy, Surge,
Exercise Package, etc)
Identify Training Assets
Develop Training Package

First Month: Familiarization Tours and Discussions
First Commander's Conference
Capabilities Training Focus
Area Intelligence Briefings
Develop Concept of Operations
Draft Staff Estimates by appropriate CINC
Staff; coordinate with ALCON

Second Month: Cross Training at Individual Level
Second Commander's Conference
Deployment/Logistics Training Focus
Area Intelligence Briefings
Draft Commander's Estimate by appropriate
CINC; coordinate with ALCON

Third Month: First Integrated Exercise (Ungraded)
Training at individual unit level; some
coordination

Third Commander's Conference

Scouting Training Focus

Area Intelligence Briefings

Draft Concept of Operations by CINC/ISF
Commander

Fourth Month: Second Integrated Exercise (Self Graded)

More coordination between units

Fourth Commander's Conference

Targeting Training Focus

Enemy Capability Intelligence Briefings

Approval of Concept of Operations by CJCS

Fifth Month: Third Integrated Exercise (Graded by CINC)

Commander's Meeting with CINC

Striking Training Focus

Allied Capability Intelligence Briefings

Sixth Month: Final Integrated Exercise (Graded by CINC/JCS)

Final Commander's Conference

Final Intelligence Briefings

After being placed in a surge-ready status (or actually deploying), the ISF would have a continuous training package that would be highly scenario dependent, but might generally look like this:

Repetitive Training

Weekly Commander's Conference

Monthly Integrated Exercises

Monthly Coalition/Allied Exercises

Weekly Intelligence Briefings

The notional training discussed here could easily be tailored for a wide variety of concepts involving joint forces. The spectrum ranges from the idea of standing ISF "building blocks" discussed here to simply bringing various service components together in some other fashion and training them together prior to being placed in a state of surge-readiness or forward deployed to a potential crisis arena.

Deployment

Deployment is the logistics support and ultimate movement to a crisis arena and the positioning of forces within that arena. For an Integrated Strike Force, most of the logistic support would come from the individual services during the training phase, and would remain a service responsibility in most cases during deployment. Joint doctrine says, "Each military Service has the responsibility to develop and provide the elements of sustainment for the forces it provides to the theater." (JCS Test Pub 3-0)

The first key element in effective integrated air and sea power deployment is planning. Much of the deployment planning, including both logistics and positioning, is conducted as part of the training cycle described in the section above. A second key issue in deployment is system compatibility. Several critical areas include fuel, ammunition, communications equipment, and

cryptological codes. The U.S. Navy and Air Force are conducting detailed planning to ensure compatibility in these key areas, with memoranda of agreement setting out the results. A third vital issue is the prepositioning of equipment in potential crisis arenas. There is currently prepositioned equipment in Europe and relatively close to the Persian Gulf region. Such equipment is under the purview of the warfighting CINC whose area of responsibility is involved.

The fourth deployment concern is the availability of overseas bases. The overseas base structure is rapidly contracting, and alternatives of overseas basing must be developed. This is a result of the end of the Cold War; the shrinking U.S. defense budget (with Congressional desire to cut bases overseas rather than lose bases in their districts at home); rising nationalism in some countries (notably the Philippines, and to some degree in Germany); and technological advances that obviate the need for certain bases. The declining overseas base structure is a major challenge to integrated air and sea power, particularly in the forward deployment of significant land-based air power. The Gulf War, for example, would not have been possible on the scale it was conducted, without the wide variety of well-positioned bases in Saudi Arabia. While sea-based air power can deliver significant firepower, concerted, campaign-level bombing campaigns will require forward bases.

A fifth consideration in the deployment phase of integrated sea and air power is the positioning of assets in the crisis

arena after arrival. Generally, the first U.S. assets to arrive in the crisis arena will be aircraft flown from other forward bases or the United States. Naturally, their positioning will be entirely scenario dependent, but if forward bases are available in the crisis arena, these aircraft can be flown and landed in the region almost immediately. If there are not bases available, as is frequently the case, the first assets to establish a significant presence will probably be U.S. Navy ships. Again depending on the scenario, this might be a Carrier Battle Group, a Surface Action Group, and Amphibious Readiness Group, or some combination.

Naturally, the first requirement for any forces arriving in the crisis arena is self-defense. As the United States saw in Lebanon in 1984, an unprepared force is a target waiting for a strike. If aircraft are landed in the crisis arena, they must be in a secure airfield, with substantial defensive capability available. If Navy ships are the first in the arena, they should be at the highest state of alert, with the right mix of ships to provide defensive capability.

The integration of the forces can occur in a variety of ways. If the initial force package moved into the crisis arena is an Integrated Strike Force (ISF), the basic structure of the command will be in place and basically ready to operate. The land-based air power component will move into an air base either in the crisis arena (if one is available); or to the nearest U.S. base. Even in an era of dwindling overseas bases, many regions of the world will have available bases. The sea-based air and

naval component of the ISF will be positioned in the littoral area. A defensive perimeter will be set up around both the land-based air and the sea-based force using organic assets of the ISF. Army forces could be added to the ISF at the discretion of the warfighting CINC to provide additional defense around the land-based forces. Naturally, the sooner in the process that the requirement for Army forces is identified, the better. Ideally, if an ISF contingency would require Army forces, they would be assigned as early as possible in the training cycle prior to deployment. The dangers of significant Army forces arriving "in theater" after hostilities commence are obvious. Generally, an ISF should be able to handle most regional crises without the addition of Army troops, so the number of instances where this occurs should be minimal.

Another option, of course, would be for the Marines associated with the ISF to provide perimeter defense where required for the air force composite wing. This would denigrate the combat power of the Marines, however.

The warfighting CINC responsible for the crisis arena will provide for air and sea ports, lines of communication, transit and overflight rights, and reception and onward movement arrangements -- with assistance as allocated by the NCA from other CINCs. This is in accordance with joint doctrine, and is a logical approach. The ISF is generally not equipped to handle all those logistic concerns without outside assistance.

The key to positioning forces is to ensure they are effectively positioned to 1) maintain a secure defensive posture

against all possible threats; 2) permit effective combat operations against postulated targets in the crisis arena; 3) are able to train, rehearse, and practice operations as required from the selected location; 4) are in a politically acceptable posture from the perspective of the host government (if there is one) and any allied forces also deployed; 5) have adequate and secure communications with other U.S. and allied forces in the region, including competent logistic support. If these constraints are met, the force will be able to quickly move into subsequent phases of the operation: Scouting, targeting, and striking.

Scouting

Scouting is the sum of actions undertaken to ascertain the identity of all air, surface, and subsurface contacts within a specified geographic portion of the crisis arena. Scouting also includes battle damage assessment, which is scouting conducted after force has been applied to a target. Scouting is immediately conducted upon arrival in the vicinity of the crisis arena.

The key to effective scouting is using sensors in an integrated fashion. In an increasingly technologically oriented world, overhead sensors (satellites) will provide an increasing percentage of all scouting conducted for integrated air and sea forces, although they will never fully replace other sources. The key to effective use of overhead sensors is fusing their data with information collected by all the other means of scouting.

Overhead sensors can collect information optically, electronically, and through heat sensing. Other means of scouting are through electronic and communication signal collection, radar, sonar, and visual.

Key scouting platforms in an integrated air and sea power scenario include:

- o Shipboard electronic and communications intercept stations (Aircraft carriers, large Amphibious ships, certain submarines, and some Cruiser and Destroyer size ships have detachments with this capability)
- o Airborne electronic and communications intercept operations (Navy E-2, EA-6B, S-3, EP-3, and some helicopters; Air Force E-3 AWACS, and some variants of the EC-135 and EF-111A)
- o Airborne early warning and electronic detection capability (Navy E-2 and Air Force E-3 AWACS)
- o Airborne reconnaissance (Navy F-14 POD configuration and Air Force U-2/TR-1, RF-4C)
- o Picket ship operations with Cruisers, Destroyers, and Frigates, particularly using embarked LAMPS Aircraft
- o Picket submerged operations with Submarines

Perhaps the key issue of scouting is data fusion. In modern battle, there will always be information saturation. The key to effective scouting is sorting out the valid from the invalid or not relevant. This can only occur in a well-equipped and staffed fusion center, which should be located in the unit with the best overall communications suite and staff support complex. This could be afloat in an Aircraft Carrier, amphibious warfare ship,

or command ship; or it might be ashore if an effective forward base in the crisis arena was available and suitably defended. Within the fusion center, access to overhead data is the top priority; followed, in order, by access to data link information, airborne early warning radar, airborne electronic and communication information, and airborne reconnaissance.

An integrated scouting commander should be assigned by the strike force commander, with assets provided to his command. The scouting commander could be either a Naval officer or an Air Force officer, depending on the geography and assets involved in the scouting scenario. He would normally be an O-6 with sufficient staff support to undertake the complex scouting problem in the designated fusion center.

Dissemination of scouting information is a frequent collapse point in integrated air and sea operations. It is difficult to "get the word out" to widely spaced units with a variety of means for injecting data into their combat systems. The best means of providing scouting information is via a suitable data link, either HF or UHF depending on the scenario. The data link provides a "real time" picture that can be displayed and continuously updated of the scouting results. Secondary dissemination can occur via other communications circuits, including hard copy messages, verbal updates on various circuits, and teletype circuits. Each of these is a distant second to an effective and well managed primary "real time" data link between the units of the integrated air and sea forces.

Scouting is the most difficult of all warfighting

operations, because it involves the sorting out of vast quantities of data -- often at critical speed. The task of fusion becomes more difficult as events accelerate. The key is remembering to prioritize scouting objectives. Each objective should be classed by the integrated force commander as a high, medium, or low priority scouting assignment. The scouting commander can then allocate resources to each assignment based on priority, ensuring that critical assignments receive top priority. Assignments can be made by geographic area, threat, speed, altitude, or any other attribute of the target grouping - or some combination.

For example, an integrated force commander who arrives in the littoral area off the coast of central Israel might assign any air target coming "feet wet" from the coast of Lebanon a high priority. Any surface target moving south along the Golan heights would likewise be a high priority. An air target coming "feet wet" from the Israeli coast might receive a medium priority. One emerging from the air corridor from Cyprus would be a low priority. A scouting plan could be developed that would categorize the scouting objectives by providing a series of "gates" into which most scouting objectives would fit, although no substitute exists for the initiative of forces in the field. A scouting plan might look something like this:

Scouting Plan

	Syria	Israel	Egypt
Air			
Low/Slow	High	Medium	Low
High/Fast	Low	Low	Low
Commercial	Low	Low	Low
Surface (Land)			
Tank	High	Low	Medium
Truck	Medium	Low	Low
APC	Medium	Low	Low
Surface (Sea)			
Merchant	Medium	Low	Low
Patrol	High	Medium	High
Submarine	High	Medium	High
Combatant	High	Medium	High
Political			
Leadership	High	Low	Low
Mob Activity	High	High	High

(Note: This plan is merely representative of a concept of organization. A real scouting plan would be highly detailed, and include technical differentiation between various scouting objectives)

Targeting

Targeting is the bringing to bear of combat elements capable of applying lethal force to specific structures, geographic areas, and concentrations of men and material. In simplest terms, it is the positioning of strike assets. During many regional crises, the simple solution of the targeting problem will have a demonstrable calming effect, and transcends the need to apply combat power. Targeting assumes that deployment (positioning) and scouting have already been successfully conducted. This permits the assignment of strike assets to appropriate targets. While it may be necessary in certain scenarios to send combat assets out in essentially simultaneous deployment/scouting/targeting/striking sequences, most regional crises (particularly at the early stage) will permit separation (and thus far better control) of each stage of the combat problem. Two plans could form the basis for integrated air-sea battle: A Target Alert Plan (TAP) and a Target Priority List (TPL). A TAP sets levels of readiness among targeting/striking assets. A TPL is a priority list of targets with broadly assigned "shooters." The TPL would be used to generate actual daily Strike Plans, discussed in the next section.

Target Alert Plan (TAP)

In supplying resources to the targeting problem, a useful construct is to think in terms of levels of targeting. Each targeting asset should be placed at a prebriefed level of alert. This would simplify C2 for the targeting assets in the air-sea battle package, prevent collapse of the targeting effort in the event of successful enemy intrusion on friendly C2 circuits, and ensure that air and sea forces are operating from a "single sheet of music" in the targeting plan. As a notional concept, air and sea forces in the crisis arena could be placed in four levels of target alert status as follow:

LEVELS OF TARGET ALERT

- White: Deployment and scouting completed. ID of targets completed. Ordnance can be fired within 24-48 hours.
- Yellow: Targets selected. ID validated. Mission planned. Crews briefed. Ordnance can be fired within 12 hours.
- Red: Targets refined. Ordnance loaded. Strike platforms groomed. Ordnance can be fired within 4 hours.
- Black: Targets under fire control. Strike platforms airborne/seaborne. All defensive systems up.

Awaiting order to strike and ordnance will be
fired immediately.

Each of the strike systems is part of the Targeting Alert Plan, and is controlled by shifting its targeting status up or down as circumstances warrant. In a generalized format, the Targeting Alert Plan would appear something like the following:

TARGETING PLAN

	Land-based Air	Sea-based Air	Tomahawk
White	Mission planning in progress Ordnance check Aircraft groom Tanker support arranged Air defense up 24-48 hr stby	Mission planning in progress Ordnance check Aircraft groom Carrier within 500 NM launch CAP/E2 up 24-48 hr stby	Mission planning in progress Missile groom Launcher groom CG/DD within 500 NM launch AAW Fire cont up 24-48 hr stby
Yellow	Missions planned Targets assigned Flight line check Crews briefed/rest Ordnance breakout All defenses up 12 hour stby	Missions planned Targets assigned CV within 200 NM Crews briefed/rest Ordnance breakout All defenses up 12 hour stby	Missions planned Missions loaded CG within 200 NM Fire team brief Missile regroom All defenses up 12 hour stby
Red	Mission review Targets review Flight line clear Crew ready 30 Ordnance loaded All defenses up 4 hour stby	Mission review Targets review CV on station Crew ready 30 Ordnance loaded All defenses up 4 hour stby	Mission review Targets review CG on station Fire team up Missile ready All defenses up 4 hour stby
Black	Aircraft airborne or alert 5 Radar ops permit All defenses up Base at Cond I Ready-to-launch	Aircraft airborne or alert 5 Radar ops permit All defenses up CV at Genrl Qtr Ready-to-launch	CG/DD in launch basket Nav check done All defenses up CG/DD Genrl QTR Ready-to-launch

Naturally, this Targeting Alert Plan is provided for representative purposes. A real TAP would be far more complex and detailed, and would generally include a far wider variety of targeting platforms. These might include, for an Integrated Strike Force: Land-based air, Sea-based air, Tomahawk land-attack missiles, Amphibious Assault Force, Naval Gunfire, Electronic Warfare (jamming), Tomahawk ship-attack missiles, Harpoon missiles, special forces, and so forth.

The preparation of the TAP is another key point at which integration of air and sea power occurs. The targeting commander for the Integrated Strike Force surveys the mission, lays out the TAP, and considers the options for sequencing forces. The targeting commander might begin by placing Tomahawk into red alert, while placing land-based air in yellow and sea-based air in white. Electronic warfare might be placed at the highest level of readiness, a black alert status. This would permit immediate execution of electronic warfare suppression of defenses, and closely follow with tomahawk, land-based air, and sea-based air strikes. At the point of execution, the targeting commander has placed each of the combat platforms at an optimal level of readiness and is ready to execute whatever level of strike function is ordered by the Integrated Strike Force commander.

Alternatively, the entire force can be moved up and down the ladder of targeting alert status together, shifting from white up

through black as required. This type of pre-planned shifts in alert status might be extremely advantageous if the force were under attack or were in a communications minimize posture. It would also serve as a forcing function to ensure that related forces were moving up and down a readiness ladder in relative cohesion.

Target Priority List (TPL)

A Target Priority List is, as the name implies, a list of targets arranged in desired chronological order for strike. It consists of authorized targets cleared by higher authority (generally the warfighting CINC, with tacit approval of CJCS, SECDEF, and the President) for attack by strike assets from the sea and air power force. The Target Priority List is a reflection of the detailed planning that the warfighting CINC has undertaken and passed to the ISF Commander as part of a commander's estimate, a concept of operations, and a theater campaign plan. The TPL flows from the CINC planning process, and presents a chronological sequence to the ISF, beginning with targets that must be hit first. The TPL also identifies those targets that constitute "flow points," i.e. go-no go targets that must be destroyed before downstream operations can proceed. The TPL is arranged in order of strikes. It is the basic planning document for the air-sea battle campaign. The TPL is also the broad document from which the daily Strike Plans are prepared for attack missions.

Strike

Striking is actually concentrating firepower on targets. It is the point at which ordnance meets target. If the previous functions discussed have been properly executed, it is simply a matter of using the TAP and TPL to build a daily strike plan and giving authority to pull the trigger.

Generally, the targeting and striking functions are so closely related that the same decision-maker must assume responsibility for both. The essence of effective strike is the synchronizing of force on targets. In our discussion of integrated air and sea power in regional crisis, this is particularly important. The importance of proper synchronization stems from the tight control of the vertical ladder of escalation that typically categorizes regional crisis. Strikes must be carefully planned to minimize collateral damage, reduce casualties to essentially zero, avoid the giving of prisoners at all costs, and use the minimal level of force required to execute the mission. Joint doctrine states, "A key characteristic of a campaign is the commander's calculated synchronization of land, air, maritime, special operations, and space forces, as well as political and informational efforts to attain strategic objectives." (JCS Test Pub 3-0).

What is really needed is a community of specialist/subspecialists who are tactical "targeteers." A

number of studies have made this recommendation, but only in the area of strategic planning (i.e. nuclear targeteering) has this come to fruition. Good target selection is a demanding process that requires an understanding of tactics, technology, interoperability, geography, psychology, history, and a variety of other disciplines. Each of the services should train a cadre of targeteers, with joint course work to emphasize the interoperability of the targeting process. A targeteer should then be assigned to major combat units (Navy Carrier Battle Groups, Air Force Wings, Army Brigades/Divisions with Airland Battle/Targeteering requirements, Marine Expeditionary Units). Each ISF would then have 3-5 targeteers to assist in target selection at all levels of combat.

In addition to synchronizing forces in proper order, the strike commander must as well integrate his forces. This is conducted in the development of the daily Strike Plans, which build from the TAP and TPL. The Strike Plan actually assigns targets to strike assets. It also lays out secondary strike concepts as a follow-on in the event of further hostilities.

Ordnance selection for strikes is a key element in the decision-makers calculus in regional crisis, principally due to its effect on limiting collateral damage. (Although commanders in the field may often be limited to what is in the magazine, on many occasions several different kinds of ordnance may be available and decisions must be weighed carefully.) Another issue for the strike commander is communications. In addition to the assignment of frequencies and crypto, which is laid out in

the Integrated Strike Force communications plan, the strike commander must ensure the workability of the communications plan in the actual execution of the strike. What are the alternate communication and connectivity paths in the event of losses during the strike? Are communications relay aircraft and ships available if needed? This issues must be addressed by the strike commander.

Another key concern for the strike commander is battle damage assessment (BDA), which returns the entire combat process full circle to the scouting evolution, and begins again the process of scouting, targeting, and striking. The strike commander must work with the scouting commander to ensure the follow-on movement of battle damage assessment assets into the battle field as necessary (assuming overhead sensors cannot effectively conduct the BDA).

Taking into account these issues, a notional daily Strike Plan might appear as follows:

Daily Strike Plan, 21 May 1995

	Target	Shooter	Level	Time
Tomahawk 1	C2 Node A	CG-54	6 TLAM	0300
Tomahawk 2	Pres Palace	CG-54	6 TLAM	0300
Tomahawk 3	AAW Batt A	CG-52	12 TLAM	0300
Tomahawk 4	Airfield A	CG-52	6 TLAM	0300
Tomahawk 5	Airfield B	DD-970	12 TLAM	0300
Tomahawk 6	C2 Node B	DD-970	12 TLAM	0300
NGFS 1	POL Site A	DD-963	100 Rds	0400
NGFS 2	POL Site B	CG-50	120 Rds	0400
NGFS 3	Gun Boats	DD-966	60 Rds	0400
SEAD 1	AAW Batt B	F-117	4 A/C	0400 (1)
SEAD 2	AAW Batt C	F-117	4 A/C	0400 (1)
SEAD 3	AAW Batt A	EF-111	4 A/C	0400
SEAD 4	AAW Batt B	EF-111	4 A/C	0400
SEAD 5	AAW Batt C	EA-6B	2 A/C	0400
A Strike	Pwr Plnt A	F-16/F-15	32 A/C	0500 (2)
B Strike	Pwr Plnt B	A-6/F/A-18	32 A/C	0500 (2)
C Strike	Water Plnt	F/A-18	18 A/C	0500
EW 1	Scud C2	EC-130	1 A/C	0600
EW 2	Guard C2	EA-6B	2 A/C	0600
NGFS 4	LZ A	DD-971	250 Rds	0600
NGFS 5	LZ B	LHA-1/2	250 Rds	0600
D Strike	Beach Def	A-6/F/A-18	32 A/C	0600

Note 1: Tankers - 2 KC-135

Note 2: Tankers - 11 KC-135

The daily Strike Plan is the planning document for commanders to prepare specific missions, brief air crew, load ordnance, and transmit further guidance -- such as the ATO, the Landing Plan, the Naval Gunfire Plan, and so forth.

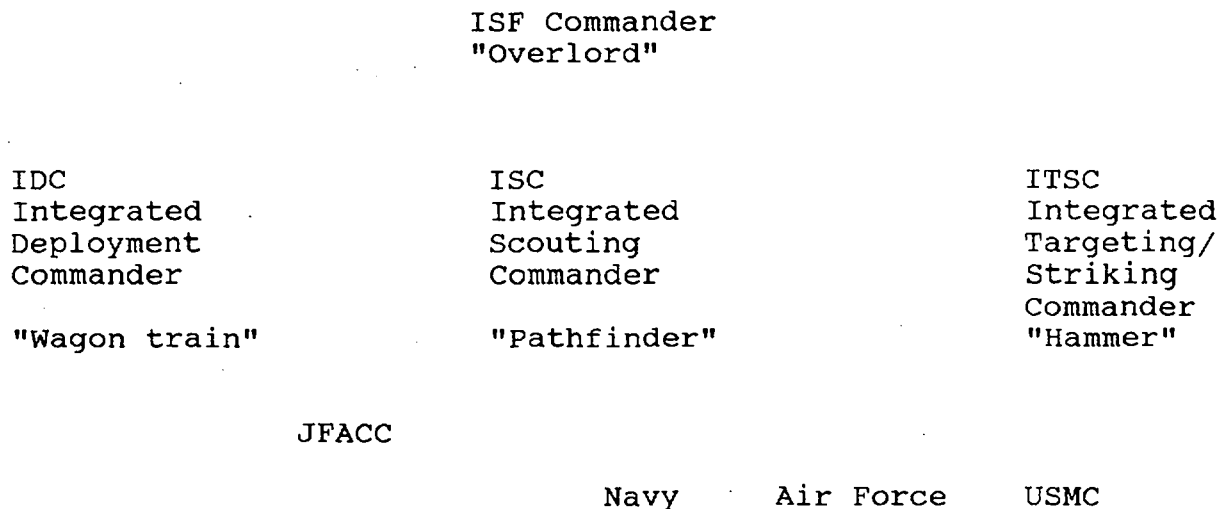
Command, Control, and Communications

It is not our intent in this discussion to lay out a detailed plan for controlling an Integrated Strike Force, which should be developed by doctrine agreed upon by the services, the warfighting CINCS, and the JCS staff. However, several observations about command, control, and communication (C3) that are germane to regional crisis control and integrated air and sea power might be worthwhile.

First of all, the basic guiding principle for the ISF should be the broad concepts currently under development for Joint Task Forces. Additionally, however, the early integration of the ISF permits better and more integrated C3 for an ISF, and the concepts outlined below could easily be added to current joint doctrine by use of an appendix to appropriate publications dealing with the Integrated Strike Force concept.

As an Integrated Strike Force "works up" along the lines discussed in this study, much of the C3 will be resolved by the forces. Each ISF should mold the basic tactical doctrine to its particular strengths and weaknesses, intelligence forecasts, and

probable area of operations. This is not to say that doctrine should be discarded -- rather, it should serve as a basic building block to be tailored to the specifications of the ISF. A generalized concept that would be useful would be to force integration by actually assigning senior officers in the ISF to direct the various warfighting phases discussed above: Deployment, Scouting, and Targeting/Striking. The choice of officer would be dependent on the desires of the ISF Commander, the background of the officers, their platform, and so forth. A basic "wiring diagram" might look like this:



Communications Plan

These commanders would be linked by a UHF Secure Satellite Communications circuit. Additional circuits could be laid out roughly as follows:

	CKT	NECOS	TYPE	Participants
1.	Command	Overlord	UHF/Sat	Senior commanders
2.	Strike	Hammer	UHF/HF	Overlord, strike 3.
3.	Target	Hammer	UHF/HF	Overlord, targeteers
4.	Logistics	Wagon Train	HF	All
5.	Navy Red	Senior Navy	UHF	Navy forces
6.	CATF	ARG Cdr	UHF	ARG, Navy escorts
7.	CVBG	CV CO	UHF	Sea-based air, escorts
8.	T-HAWK	CG/DD CO	TTY/Sat	T-HAWK shooters
9.	INTELL	Overlord	UHF/Sat	All
10.	TADIL A/B	Overlord	UHF/HF	All link capable

Naturally, there will be dozens more communications circuits, but these ten would provide the high-level connectivity between the senior commanders in the ISF. Back ups for critical circuits (particularly the command circuit) would normally be provided via HF.

Summary Air-Sea Battle Concepts

From the foregoing analysis, a group of air-sea battle conceptual guidelines can be developed for application to the Integrated Strike Force concept:

- o **Conduct Training Early and Hard.** Even before forces enter the initial training phase of the ISF life-cycle, a realistic concept of employment must be generated by the CINC. Then a focused and demanding training cycle that brings together all the components of the ISF must be executed, under the direction of the CINC staff and the selected ISF Commander.

- o **Clearly Define the ISF Command Structure.** Assign the commanders for deployment, scouting, and targeting/striking early, and ensure all understand their role. All command relationships should be in accordance with joint doctrine for joint task force operations as tailored by the ISF Commander in consultation with the CINC. As JCS publication 3-0 says, "establish a command structure that clearly defines overall command responsibility, as well as command responsibility for each phase of a campaign or operation." Authority must be delegated to the lowest level possible, preferably at the scene of action.

- o **Focus on Communications.** Every key decision-maker should be personally involved in the communications plan, ensuring it provides equipment compatibility, sufficient communications assets, and true connectivity between the warfighting elements of

the ISF. Critical path concepts: interoperability, redundancy, and standardization of format and procedure.

- o **Tailor the Integrated Strike Force to the Mission.** Take only what is needed to execute the given mission. If the entire force is necessary, take it all -- but if only the ARG is required, leave the CVBG and the Composite Wing at home for further training while the ARG does its mission. (As a general comment, the entire ISF would provide the lowest-risk package and will probably deploy together in a real crisis). Overwhelming force should be applied at the decisive points.

- o **Delegate Necessary Decision Making Authority to the Point of Action.** This applies to the CINC looking down to the ISF Commander, and the ISF Commander looking down to his warfighters -- deployment, scouting, and targeting/striking commanders.

- o **Execute the Principles of War.** Apply overwhelming force at decisive points, attack the enemy's center of gravity, and maintain all the standards: Objective, Offensive, Mass, Economy of Force, Maneuver, Unity of Command, Security, Surprise, and Simplicity.

APPENDIX A

Joint Doctrine for an Integrated Strike Force

(Incorporated as Appendix A to Joint Publication 3-0,
Joint Task Force Operations)

Endnotes

VIII. AIR AND SEA POWER IN STRATEGIC CONTEXT

Introduction

The broad strategic interests of the United States over the coming decade have been articulated by the Bush Administration in the 1992 **National Security Strategy of the United States**:¹

- o The survival of the United States as a free and independent nation, with its fundamental values intact and its institutions and people secure.
- o A healthy and growing U.S. economy to ensure opportunity for individual prosperity and resources for national endeavors at home and abroad.
- o Healthy, cooperative, and politically vigorous relations with allies and friendly nations.
- o A stable and secure world, where political and economic freedom, human rights, and democratic institutions flourish.

These are very broad statements of strategic interests. Some of the more specific interests mentioned in the **National Security Strategy** that will form the basis for the potential use of air and sea power in regional crisis control include:²

- Protect U.S. citizens and property abroad in crisis: "Effectively counter threats to the security of the U.S. and its citizens and interests short of armed conflict . . ."
- Deter terrorism and military adventurism: "Counter . . .

. international terrorism . . " and "Discourage any temptation to new quests for military advantage."

- Counter proliferation: "Prevent the transfer of militarily critical technologies and resources to hostile countries or groups, especially the spread of chemical, biological, and nuclear weapons and associated high-technology means of delivery."

- Fight the Drug War: "Reduce the flow of illegal drugs into the U.S. by encouraging reduction in foreign production, combatting international traffickers . . ."

- Protect trade routes: "Ensure access to foreign markets, energy, mineral resources, the oceans and space."

- Protect regional stability: "Maintain stable regional military balances to deter those powers that might seek regional dominance, promote diplomatic solutions to regional disputes, combat threats to democratic institutions from aggression, coercion, insurgencies, subversion, terrorism, and illicit drug trafficking."

This set of strategic interests obviously presents a wide range of challenges for the Department of Defense, and the interests identified above represent only a portion of the total requirements for the use of military power. Indeed, many of the tasks that the Department of Defense will be expected to undertake will emerge from uncertainty and vulnerabilities that are not apparent today.

In order to meet the challenges articulated in the **National Security Strategy**, the Department of Defense develops a broad

strategic approach that is described in the **National Military Strategy**.³ The starting point for the **National Military Strategy** is the set of national interests identified above. Of particular interest are the four strategic foundations identified in the **National Military Strategy**:⁴

- o Strategic Deterrence and Defense
- o Forward Presence
- o Crisis Response
- o Reconstitution

Forward presence and crisis response are the natural foundations to which integrated air and sea power most specifically pertain. Forward presence of forces "show our commitment, lend credibility to our alliances, enhance regional stability, and provide a crisis-response capability, while promoting U.S. influence and access."⁵ Examples of the types of operations that occur as a result of forward presence include operational training and deployments, security assistance, protecting U.S. citizens abroad, combatting drugs, and humanitarian assistance.⁶ As the **Strategy** points out, the level of U.S. forces permanently stationed overseas will be decreasing -- a result of budget pressure, a dwindling overseas base structure, and the end of the Cold War. As a result, the presence demonstrated by forward deployed forces will be all the more critical to overseas perceptions of the U.S. commitment and credibility.

Integrated air and sea power will be the best combination of forces to maintain a strong perception of U.S. involvement. The

Integrated Strike Force would be a very credible force package for such forward presence. The Carrier Battle Group and Amphibious Readiness Group are obviously able to operate forward without much in-theater support. If basing arrangements could be obtained for temporary deployments (similar to the Incirlik, Turkey deployment of a Composite Wing during Desert Shield/Desert Storm), an Air Force Composite Wing could be deployed forward as well. The forces in the Integrated Strike Package could be tailored to the theater, potential missions, required exercises, and available bases for the Air Force Wing.

Crisis response is described in the **Strategy** as one of the key demands facing planners. It is what gives the U.S. the ability to project power and use military force in a decisive fashion where required. "Regional contingencies we might face are many and varied, and could arise on very short notice." The **Strategy** points to responses ranging from "a single discriminate strike to the employment of overwhelming force to defeat a regional aggressor." Again, an Integrated Strike Force is a viable candidate to accomplish a wide variety of mission tasking in crisis response. The ISF provides a strong package of capabilities that address five critical strategic principles outlined in the **Strategy**:⁷

- o Maritime and Aerospace Superiority. "Achieving and maintaining preeminence in the air, in space, and at sea is key to our continued success as a global leader." Clearly, the ISF concept provides well trained, efficiently organized, and immediately ready forces to gain air and sea power in a regional

crisis.

- o Strategic Agility: "The force needed to win is assembled by the rapid movement of forces from wherever they are to wherever they are needed." Both the Carrier Battle Group and Amphibious Readiness Group can transit with immediate strategic agility to a crisis arena. If bases are available (as in Desert Shield/Desert Storm), the Composite Wing would likewise be quickly available.

- o Power Projection: "Our ability to project power, both from the U.S. and from forward deployed locations, has strategic value beyond crisis response. It is a day in and day out contributor to deterrence, regional stability, and collective security." Again, the essence of the ISF concept is power projection, through a powerful and synergistic grouping of military forces.

- o Technological Superiority: "The U.S. must continue to rely heavily on technological superiority to offset quantitative advantages, to minimize risk to U.S. forces, and to enhance the potential for swift, decisive termination of conflict." Again, the ISF provides the high-tech edge in virtually any crisis arena.

- o Decisive Force: " . . . the ability to rapidly assemble the forces needed to win -- the concept of applying decisive force to overwhelm our adversaries." The ISF, with its powerful components, well-organized training, and ample combat power, will provide a decisive force in many regional crisis. It can further function as the "opening wedge" for the further deployment of

additional forces as required.

The Base Force and Integrated Strike Forces

Perhaps the most controversial aspect of the entire national security strategy and the national military strategy is the level of funding required to effectively execute them. The Bush Administration has developed the "base force," and is defending the ability of that force to meet the kinds of contingencies that may emerge. The basic assumptions of the base force include:

- o Continued problems for the former Soviet Union, precluding the emergence of Russia (or any other republic) as a major security threat to the United States or our allies.
- o U.S. vital interests remain in line with those currently postulated, with basic alliance systems intact, including NATO, Rio Pact, and key bilateral accords such as those established with Israel, Japan, South Korea, and other current allies.
- o Continued dependence on hydrocarbons from the Persian Gulf region, as well as long sea lines of communication through either the Mediterranean or Indian Ocean/Western Pacific for oil.
- o Increased proliferation of conventional weapons, and possible proliferation of nuclear, chemical, and biological weapons.
- o Further reductions in overseas base opportunities for the United States military.
- o Continued need for a nuclear deterrent force.

To meet the challenges that emerge from U.S. interests and the assumptions outlined above, the DOD "base force" concept, proposed to be in place in 1995, will include:⁸

Strategic:	Bombers:	95 B-52H + 97 B-1B + 20 B-2
	Intercontinental Missiles:	500 MM III
	SSBNs:	10 Trident II/D5 + 8 Trident I/C-4
Army:	Active:	12 Divisions (1 Airborne, 1 Air Assault, 2 Light, 6 Mech, 2 Armor)
	Reserve:	6 Divisions (1 Light, 2 Mech, 3 Armor)
	Cadres:	2 Divisions
Navy:	Ships:	452 (12 CVBGs + 1 Overhaul, 136 Surface Combats, 89 SSNs, 53 Amphibs 100 Support, 15 Mine Warfare)
	Active:	11 Air Wings
	Reserve:	2 Air Wings
USMC:	Active:	3 Divisions/3 Wings
	Reserve:	1 Division/1 Wing
	Amphibs:	50 Ships (Part of Navy's 450)
USAF:	Active:	15.25 Fighter Wing Equivalents
	Reserve:	11 Fighter Wing Equivalents ⁹

Source: Annual Report to the President and Congress, Feb, 1992

This base force is sufficient to support two Integrated Strike Forces ready for instant deployment or already forward deployed. The base force can also provide two additional ISFs in

a "work up" phase. The key, however, is that doing so will mean that the ISFs will form the central core of naval and air "forces in being" for the United States. In other words, to dedicate sufficient Carrier Battle Groups and Amphibious Readiness Groups to forming two ISFs, the Navy and Marine Corps will not be able to support other commitments on a routine basis. This would be acceptable so long as the ISFs would also fulfill traditional CVBG and ARG commitments in the Mediterranean and Indian Oceans. In other words, the ISFs would conduct routine deployments if U.S. defense policy continued to require such routine forward deployments (which seems likely for the foreseeable future). The Air Force would also be able to support the ISF concept, but not without dedicating a significant percentage of their available assets to the concept. As is the case for the Navy and Marine Corps, this is acceptable if planners recognize that the Composite Wings would form a significant part of the core air power response. For all three services, the ISFs would be the key response forces for regional crisis. The real "value added" over the current system is the joint training, workups, and standing levels of interoperability available under the ISF concept.

Commitments and the Integrated Strike Force

Looking out over the coming decades, there is every reason to believe that the United States will want to continue a policy of forward deployments. Particularly as overseas bases close and

permanent overseas presence declines, the military will become more oriented toward rotating forward deployment and expeditionary response. The Integrated Strike Force concept fits well with this approach by providing available integrated air and sea power that can be rapidly moved forward into crisis. U.S. Army or allied units can quickly be attached to the ISF, either coming in behind the ISF as a "filler" behind the initial wedge or being integrated early in the work up process for a given deployment, exercise, or operation.

Looking at several key regions and considering how the ISF concept might work:

Persian Gulf: In addition to a small contingent of Navy surface ships (Middle East Force), an ISF could be deployed to the region for some portion of each year. While unwilling to accept full-time installations, Saudi Arabia and the GCC nations might be willing to accept a limited ISF presence. Bases are available for the Composite Wing, and exercises could be conducted throughout the peninsula.

Europe-Mediterranean: An ISF could deploy for some portion of the year to European waters. Basing could be arranged through NATO -- perhaps in Italy, Sicily, or Spain. Key operational exercises could be conducted with various allies, and U.S. presence in the region would be felt.

Pacific-East Asia: By using bases in Korea or Japan for the Composite Wing, an ISF could be deployed very effectively to the Western Pacific. I would also envision maintaining permanently assigned U.S. forces in Japan for at least the next 5-10 years,

which would make this region less likely to require a significant level of ISF presence activity.

Latin America: Presence activity in Latin America would remain focused around minimal naval deployments (UNITAS) and forces assigned to the CINC in Panama (mainly Army).

How would a determination be made as to where and when ISFs would deploy forward? Today the Navy uses a conference method, held annually, to determine the forward deployment pattern for Carrier Battle Groups. A modified version would work well for the ISFs. As an adjunct to the CINCs conference, staff officers would work together and develop an annual notional plan for the utilization of the ISFs. Each of the CINCs would make his case for presence, exercises, and operations they feel warrant the deployment of an ISF to their theater. These would be discussed by the staffs and a proposal presented to the CINCs, with the final determination made by the Chairman or the Secretary of Defense, depending on the SECDEF desires. As a rough concept, two constantly "on call" ISFs, one per coast, could spend roughly 6 months each year in the Mediterranean or Northern European Waters and the Indian Ocean/Persian Gulf. Naturally, in the event of an actual crisis requiring the presence of an ISF, the lesser priorities would be overturned by the NCA and the ready ISF immediately sent to the crisis arena. In many cases, however, an ISF would be in a forward position and able to respond relatively quickly. While the ideal would be to keep a round-the-year ISF in the Mediterranean, the Persian Gulf, and the Western Pacific, the assets in the base force do not permit

doing so. The ISF concept will provide a better integrated, trained, and cohesive crisis response force; and a more impressive presence force for the time it is on station.

Three Crises

In order to best illustrate the idea of integrated sea and air power, three hypothetical crises will be discussed. Each is based on the study of the evolving global security environment described in the first two chapters of this study and occurs within the decade. Taken together, they illustrate three potential uses of an Integrated Strike Force -- theater level warfare, peacekeeping, and non-combatant extraction. As with all scenarios, they are non-predictive, and should be taken only as a means of illustrating potential uses for the Integrated Strike Force concept. They are not a road map to the future, only a means to assess the capabilities and limitations of the Integrated Strike Force concept.

Persian Gulf, 1997

It is 1997. The armed forces of the Islamic Republic of Iran have been built up steadily over the past five years. Today they resemble the military forces of Iraq before the Persian Gulf War of 1990-91. In addition to raising an army of over 1,000,000 troops, the Iranians have bought advanced conventional weapons from the Islamic republics of the former Soviet Union.

Continuing to spend nearly 15 percent of their GNP on armaments, they now operate an Air Force of 350 front-line tactical aircraft, have procured a fleet of 40 fast and deadly patrol missile boats and corvettes, and, perhaps most significantly, deploy three advanced Kilo class diesel submarines. Their air force and navy fly and steam routinely throughout the Persian Gulf region, behaving aggressively toward other aircraft and naval vessels of U.S. allies in the region. They also operate routinely in the North Arabian Sea, and conduct exercises demonstrating the intent to curtail access to the Strait of Hormuz in crisis.

Meanwhile, Saddam Hussein was assassinated in early 1995, and was replaced in power by a troika of three Iraqi generals. The generals led the cabal against Saddam when it became apparent that the oil embargo against Iraq would not be lifted without Saddam's removal from power. They moved quickly to suppress the expected resurgence of rebellion from Shi'ites in the south (about 55 percent of the total population) and Kurds in the north (about 15 percent of the total population), and their intention is to gradually rebuild Iraq's economy with resumption of oil trade. They have undertaken some limited initiatives with members of the Desert Shield/Desert Storm coalition, including overtures with the Saudi government, pledges to meet commitments to the reparations requirements levied by the United Nations, and relatively amicable discussions with several other OPEC members.

The Saudis, Kuwaitis, and other members of the Gulf Cooperative Council (GCC) have resisted the attempts of the U.S.

to station any permanent troops or aircraft in the region. They have, in fact, become increasingly recalcitrant in cooperating with the United States Central Command, and much of the goodwill earned during Desert Shield/Desert Storm has dissipated.

However, the Gulf Arabs are looking with concern at the building Iranian armed forces, and suggest to the United States and other Western powers that pressure must be kept on the Iranians who seem to still seek to export their revolution throughout the region.

In fact, Iranian ambitions do not stop at the Gulf region. The dream of a fundamentalist Islamic cultural empire is very much alive in Tehran. The Iranian geopoliticians have been moving on three fronts: North, where they are working hard (with some success) to establish close relations with the Islamic republics of the former Soviet Union; West, where they foment revolution in the Shi'ite communities of Iraq and the Gulf states across the Gulf; and into northern Africa, where their relations with the Islamic governments installed in Sudan and Algeria are particularly strong.

In 1997, the Iranians decided to move across the border of Iraq and "liberate" the heavily Shi'ite provinces of southern Iraq. They intend to carve out roughly the southern 300 miles of Iraq, including the major oil fields of Abu Ghurab, Buzurgan, and Jabal Fawqi on the southeastern border and the southernmost fields of Rumaylah and Zubavi on the Kuwaiti border. Their rationale for this bold move is as follows:

- o Stop the religious persecution of Iraqi Shi'ites that

appears to be increasing under the new government in Baghdad.

- o Dismember Iraq to prevent any recurrence of the Arab attack on Iran, while taking revenge on Iraq for their invasion of Iran in 1981.

- o Detach the oil-rich provinces of Southern Iraq to provide additional oil revenues to Iran.

- o Consolidate the Iranian domination of the shipping, sea lanes, and maritime approaches to the Northern Gulf.

- o Send a signal to the world that Iran intends to fully support Islamic fundamentalism with the "fury of the sword" as called for in the Qu'uran.

Accordingly, in the early morning hours of December, 1997, advanced elements of the Islamic Republic of Iran Ground Forces, striking across a 200 mile front from Al Amarah to the north to the Shatt al Arab in the south, drove into the southern provinces of Iraq. Iranian jets attacked the command and control network and the air defense system throughout the region, although they stopped short of attacks on Baghdad, preferring to hold that in reserve depending on developments in the war. Eight divisions moved into the region within 24 hours, establishing full control along a line roughly 150 miles into Iraq, controlling the six southernmost provinces in Iraq. Iranian control included the industrial cities of Al-Amarah, An-Nasiriyah, Al-Basrah and the five largest oil fields of southern Iraq.

The Iraqis were completely surprised and overwhelmed in the immediate theater of attack in southern Iraq. With limited air assets, and the population of Baghdad effectively held hostage by

the threat of Iranian air attack, the Iraqis are forced to appeal to the United Nations for assistance. The U.S. and other Western powers are dismayed at this turn of events, because:

- o We have come to regard Iran as a far more dangerous potential global actor than Iraq under Hussein.

- o The move destroys Iraq and virtually assures the succession of the northern provinces, perhaps opening the way for a land grab by Syria or Turkey.

- o The Iranians threaten Kuwait and Saudi Arabia, and could use the "Shi'ite card" in the same manner as an excuse for further adventurism on the peninsula.

- o Additional revenue from Iraqi oil reserves will help fuel Iranian hegemonical ambitions in the region.

At the National Security Council meeting convened in the immediate aftermath of the Iranian invasion, the irony of the U.S. position was not lost of any of the participants. Despite having fought to keep Iraq out of Kuwait only six years earlier, the U.S. was now in a somewhat similar position in attempting to form a coalition to stop the invasion of Iraq. The invasion was deemed unacceptable by the U.S. (a position quickly adopted by a majority at the United Nations), based on the following:

- o Such violations of international law could not be tolerated, and if unchecked, would lead to similar aggression worldwide.

- o It would be unacceptable to deed over to Iran the oil reserves of a third of Iraq, particularly given the Iranian self-proclaimed goal of a world-wide Islamic revolution and production

of a Muslim bomb.

- o The dissolution of Iraq that would almost certainly result if the Iranian action were permitted to unfold without challenge would create a complete vacuum in the center of a volatile region.

- o The threat to Saudi Arabia and the Gulf States from an enlarged and successful Iran was deemed unacceptable to vital U.S. interests.

- o Iran's continuing efforts to obtain weapons of mass destruction had to be stopped before they reached more advanced stages.

Global condemnation of the Iranians had little effect on the regime in Tehran. Although the vast majority of member states in the U.N. voted to sanction Iran, it quickly became clear that the global support evident in overthrowing Saddam was not present. That was attributed to a lingering sense that "Iraq was just getting what it deserved," a perception that the Iranian invasion was justified in that it was at least partly undertaken to end human rights violations in Iraq, and the strong relationships Iran had been able to build up with a group of fellow Muslim states over the past five years -- notably the five Muslim republics of the former Soviet Union, Pakistan, Yemen, Libya, Sudan, Algeria, and others.

With a U.N. resolution permitting the implementation of sanctions against Iran, a U.S. Integrated Strike Force was immediately assigned to CENTCOM and dispatched to the region. The Composite Wing was flown to Diego Garcia as base negotiations

with the Saudis, Kuwaitis, and Omanis were undertaken, and the CVBG and ARG steamed at full speed into the Indian Ocean from the South China Sea, where the ISF had been exercising with the Korean navy.

The Iranians, in retaliation for the sanctions declared against them, issued a formal Notice to Mariners stating that the Strait of Hormuz was closed to all "unauthorized traffic," and provided a list of states whose flag would not be permitted to enter the Persian Gulf -- which included all signatories of the sanctions enacted by the United Nations. The rationale given was the "instability resulting from a state of war between the Islamic Republic of Iran and the Iraqi oppressors." The Iranians "regretted the international inconvenience thus resulting from the need to close the strait," and opined it would "be opened to normal commercial traffic upon conclusion of the present state of hostilities." Until then, it warned, all vessels not specifically cleared by the Iranian government would be subject to attack.

The U.S. and coalition response was that such a declaration was completely illegal and contrary to the well established principles of freedom of the seas and to all established norms of international behavior. Iranian assets around the world were frozen. CINCCENT, a Marine General, was ordered by the President to use the ISF at his disposal to open the strait, to implement established United Nations sanctions against Iran, and to prepare options for further offensive actions against Iran over the coming months. He was to hold casualties to a minimum, operate

in such a manner to reduce the chances of losing prisoners, and avoid collateral damage to civilians throughout the region. He could assume bases would be made available in Oman for his Composite Wing, and naval support in Bahrain would be available for his naval and amphibious forces.

The CENTCOM staff developed the following plan of attack, further offensive options, and requests for additional forces to fulfill the President's initial tasking:

U.S. Response

- o Inform Iran that no closure of the Strait of Hormuz, a critical strategic strait, would be permitted. Force would be used, if necessary, to ensure free transit for all countries through the international waterway.

- o Inform Iran that a Carrier Battle Group, an Amphibious Readiness Group, and a Composite Air Wing were being positioned in the region to ensure the waterway remained open. Additional forces could be expected if needed.

- o Position the CVBG and ARG in the North Arabian Sea, with protection provided by escorts. Commence enforcement of sanctions on all vessels seeking to enter Iranian ports. A force of two Cruisers, four Destroyers, and four Frigates (made up of ISF escorts and MIDEASTFORCE ships) would be sufficient to begin token enforcement of the sanctions.

- o Incorporate other United Nations ships in the sanctions operation as soon as they arrive in the region.

- o Fly the Composite Wing to a base in Oman, with security provided by the Omanis and other forces of the GCC. Commence

intelligence and surveillance flights over the Gulf, with fighter escort from the CV and the Composite Wing.

Further Offensive Actions

- o Prepare for forcible entry through the Strait of Hormuz in support of freedom of the sea and to ensure that oil can flow freely in and out of the Gulf. First convoy operation to include two AEGIS Cruisers, two Aegis Destroyers, with CAP flying overhead, and dipping sonar-equipped helicopters.

- o Build Tomahawk targeting options against Iranian forces in Iraq.

- o Plan strikes to be flown overland from Omani bases against Iranian forces in Iraq.

- o Conduct landing operations for the ARG on the Omani coast with heavy publicity.

- o Begin planning for defensive military action to prevent further attacks by Iran down the Arabian peninsula.

- o Consider the possibility of offensive action against the Iranian homeland to encourage their departure from Iraq, to include development of a strategic bombing campaign against selected targets in Iran.

Additional Forces

In order to demonstrate U.S. and United Nations resolve, be prepared to send additional forces as follow:

- o United Nations members should send representative contingents, with particular focus on troops from Arab states (Egypt, in particular), the Western European Union (the military arm of the EC), ships from all maritime nations with effective naval organizations, and aircraft from key Western powers.

- o From the United States, prepare to execute deployment of up to 200,000 U.S. troops to Saudi Arabia and Kuwait, entering via sea and air.

- o Deploy a second ISF immediately to the region. Prepare to deploy a third and fourth ISF to the region.

What Does This Crisis Illustrate?

The Integrated Strike Force is used in this illustrative crisis to seize and maintain control of the vertical ladder of escalation. The Iranians have undertaken to close the most important strategic strait in the world, through which flows 50 percent of the free world's oil. Clearly, that is an act that cannot be tolerated. Acting under the aegis of the United Nations, the U.S. is quickly prepared to deploy integrated air and sea forces to the region.

- o They are capable of quickly seizing air and sea power in the region and breaking the Iranian control of the strait of Hormuz. This sends an immediate and powerful political signal to the Iranians.

- o The ISF offers a wide range of firepower options covering the entire ladder of vertical escalation, from presence through

heavy strike.

- o Because the Integrated Strike Force has worked and trained together for six months, and operated overseas for the past three months, they are a cohesive team with set procedures at the level of tactics and operational art.

- o The ISF is a powerful tool for the National Command Authority to use in maintaining control of an explosive situation in a vital region of the world during regional crisis. Given the high level of C3I technology and the cohesive nature of the ISF, the NCA can more easily maintain control of the situation

- o Additional forces, both joint and combined, can be added to the ISF once it is established in the crisis arena.

Overall, this scenario represents the high end of possible situations into which a single ISF can be ordered. Given the level of opposition and potential outcomes of the scenario, additional forces would be dispatched immediately unless the Iranians suddenly backed down. The ISF is right initial choice in the situation, and provides the immediate level of response required for the warfighting CINC.

The Golan Heights, 1998

By 1995, it had become clear that the Israelis would be unwilling to provide any territory in return for peace, despite pressure from the United States. Peace talks, which had lingered on for three years, collapsed in June 1995. Tensions between the Israelis and the Syrians increased, and a series of terrorist

attacks on Israeli kibbutzim in the West Bank by Palestinians and in northern Israel by Syrian and Iranian sponsored Lebanese Shi'ites further exacerbated the already tense situation. For the next three years, both the Israelis and Syrians focused on building their warfighting capabilities for a confrontation that each side felt was sure to occur before the end of the decade.

Syrian leader Hafez Assad, who was receiving considerable financial and military support from Iran and China, significantly modernized his military forces. He concentrated on improving his air defense network, drawing on the lessons of the Gulf War and incorporating technology available to him from several former Soviet republics. He was also able to hire as advisors to his armed forces a group of senior military officers, planners, and scientists from the former Soviet Union. Other areas of dramatic improvement were in numbers and capabilities of main battle tanks, armored vehicles, and surface-to-surface missiles. His strategy seemed to be centered around a competent defensive air battle coupled with a powerful offensive ground thrust, with surface-to-surface missile attacks on Israeli population centers held out as a threat to deter similar strikes by the Israeli Air Force on Damascus.

The Israelis, on the other hand, continued to hone their traditional strengths of dominant air power, advanced main battle tanks, and intelligence/early warning leading to virtually instantaneous mobilization. They also procured the Patriot missile system to provide a defensive perimeter around their major population centers of Tel Aviv, Haifa, and Jerusalem. They

felt capable of mobilizing sufficient forces and moving them to the Golan in the case of Syrian attack. Their nuclear capability provided a "deep fallback" threat to prevent the overrun of Israel.

In 1998, the Syrians struck with virtually no warning against the crack Israeli tank corps stationed on the Golan. The Israelis had been fooled by Syrian leaks to the Mossad which had indicated a renewed Syrian thrust into Lebanon. Syrian forces mobilized in south central Syria, but all indications were that the thrust of their operations would be toward central Lebanon. Suddenly, however, Syrian tank columns turned and drove south from Merj Uyun, toward Qiryat Shemona, on the Israeli side of the Golan, following the route used by the Israelis to invade Lebanon in the fall of 1982. When the Syrian tank columns moved suddenly on the flank and rear of Israeli forces on the Golan, the Israelis were forced to scramble to bring reserves into place, and for two days the battle raged on the low hills at the foot of the Golan.

The Syrian decision to go to war with Israeli was based on:

- o Assad's desire to recover the lost strategic territory of the Golan Heights, thus enhancing his prestige in the Arab world.

- o His need for a dramatic external threat to shore up his regime, which was under increasing domestic pressure due to its inability to improve economic conditions within Syria.

- o Assad's need to respond to pressure from Iran and Libya, who had provided a great deal of financial assistance to the Syrian regime. Iranian and Libyan assistance was given to Syria

due to its status as a "front line" state against Israel. They wanted a dramatic blow against the Israelis.

Assad's strategy was not to enter a war to the death against Israel. Rather, he hoped to seize the Golan heights, deter major retaliation against him by his own surface-to-surface missile threat, and terminate hostilities with his former territory restored. Assad realized that neither Egypt nor Jordan would participate in renewed hostilities, but felt that given his limited objectives he had an excellent chance of success. He also felt the international political winds were blowing against Israel after four years of aggressive building of settlements in the various occupied territories and stalemates in the peace process.

The Syrian attack was well planned and executed. They were able to destroy roughly 35% of the Israeli tactical strike aircraft launched against them in the first 24 hours of the conflict. After two days of desperate fighting, they drove the Israelis from most of the Golan Heights, and after establishing a defensive perimeter along the old border, dug in with tanks and significant ground forces. The Israelis poised themselves for a counterattack to recover the heights.

At this point, the United Nations asserted itself and passed a resolution calling for an immediate cease-fire in place and negotiations. The Israelis, under intense pressure from the United States to conclude the hostilities before they escalated to nuclear and chemical levels, reluctantly agreed.

U.S. Response

Meanwhile, the U.S. had deployed an Integrated Strike Force, under the direction of the unified CINC, to the region on the first day of the crisis. The ISF had already been in the Mediterranean, with the Carrier Battle Group and Amphibious Readiness Group operating in the Western Mediterranean and the Composite Wing based in southern Italy. The ISF was deployed to the Mediterranean for a 90 day period to conduct exercises with units from the Western European Union. On the second day of the crisis, the ISF was directed by the President to relocate to the Eastern Mediterranean and stand by for further tasking. The CVBG and ARG departed immediately for the Eastern Mediterranean, and the Composite Wing began packing for a movement to a base in Incirlik, Turkey, the closest facility available.

The United Nations passed a resolution calling for a military force to monitor the cease fire and ensure the belligerent remained in place. With some assistance from other military forces, including a token group of troops from the Western European Union rapid deployment force, the ISF prepared to execute the following actions:

- Insert a Marine Battalion into the region. They would debark in Beirut, join up with land elements from the Western European Union and the 82nd Airborne Division, and deploy along the line of demarcation in the Golan Heights.
- Conduct intelligence gathering flights over the Golan, southern Lebanon, northern Israel, and southwest Syria -- as

agreed to by the belligerent and other states in the region.

These would be conducted by F-14 TARPS aircraft operating from the CVBG and Air Force reconnaissance flights from the Composite Wing.

- An AWACS from the Composite Wing would operate "feet wet" over the eastern Mediterranean to provide early warning and monitor the situation. Protection would be provided by CAP from the CV and missile cover from the two AEGIS Cruisers in the Battle Group.

- Monitoring of communications would be conducted from off-shore on ships of the CVBG and ARG as well as by EC-130 flights from Incirlik.

- Resupply would be provided by overland lines from Lebanon, with all essentials provided via sealift and airlift into Beirut.

Additional Military Activity

In order to be prepared for other contingencies (outbreak of further hostilities, attacks against U.S. or other nationalities in any of the countries of the region), the following additional steps were requested by the warfighting CINC:

- o Immediate deployment of an additional ISF to the region, with basing for the Composite Wing established in Greece or Cyprus if possible.
- o An additional two squadron equivalents of fighter-bombers

added to Composite Wing in Incirlik to round out battlefield preparation capability.

- o Supplemental Special Forces units provided to the ISF Commander afloat and in Incirlik.

What Does This Crisis Illustrate?

The rapid deployment of an integrated air and sea peacekeeping force is a mission well suited to an Integrated Strike Force. The ISF can also be quickly supplemented by either further joint forces (in this case, the 82nd Airborne) or combined forces (the Western European Union's rapid deployment force). The advantages of the ISF in this type of scenario are:

- o Cohesion from six months of working and training together, which provides decision-makers a high degree of confidence in sending forces into difficult regional situations.
- o Proximity to regional crisis arenas if the ISF is forward deployed, leading to virtually immediate response. If not forward deployed, response is still within 7-10 days in the Mediterranean from CONUS surge-ready positions.
- o Standing tactical procedures are in place, permitting virtually instantaneous attention to the mission at hand -- peacekeeping.
- o Sufficient combat power to ensure success in separating powerful forces on the battlefield.
- o Highly capable intelligence and surveillance capabilities necessary for effective battlefield coverage.

- o Flexibility to add other forces as necessary -- joint, combined, special forces, logistic support -- around the core of the ISF.

- o Control of air and sea regions, with sufficient ground forces to establish a zone free of conflict between large combatant groups.

Overall, regional peacekeeping is a mission well suited to the training and force mix of the Integrated Strike Force.

The Philippine Islands, 1998

Throughout the early 1990s, events in the Philippines continued to slide toward chaos. The presence of too many weak, splintered political parties precluded the development of a stable majority government. Instead, a series of coups and counter-coups were launched, each increasingly violent. The Aquino government collapsed just before elections in the spring of 1992, and was replaced successively by a right-wing government under Imelda Marcos; an Army junta; a communist revolutionary council; and a charismatic Christian movement led by an excommunicated Catholic Bishop. By 1997, the government was in chaos, and many of the various islands of the Philippine archipelago were ruled by individual warlords, each backed by some segment of the Army. The main island of Luzon was under control of the central government, a tripartite council with representation from the Army, the Catholic Church, and a right-wing nationalist party. The Communists formed the principle

revolutionary opposition in Luzon, and street fighting among all factions was common throughout the island and particularly in Manila. The Philippines had come to resemble Lebanon in the 1980s, a mosaic of violence in a sea of despair.

Despite the efforts of the U.S. Department of State over the decade to encourage the departure of all U.S. citizens, over 2,000 Americans still remained in the Manila metropolitan area in January 1998. Most had relocated to the immediate vicinity of the U.S. embassy, living in the Ermita and Paco sections of the city, where they felt they could quickly move to safety if a general program of anti-American attacks began in the city. The embassy staff had been reduced to a bare minimum, closed altogether during the brief Communist takeover, and manned by a skeleton staff over the past six months.

Infuriated by corruption in the government, huge crowds had been taking to the streets in Manila throughout the spring of 1998. By June, 1998, the situation was at a flash point. Many of the Filipinos traced the collapse of the country's economy to the U.S. military pull-out of 1992. Despite having been instigated by the Philippine Senate, the pull-out was widely seen as an "abandonment" of the special relationship between the U.S. and its former colony. Commercial firms ceased to invest in the Philippines, believing that the U.S. military departure would spell the beginning of true chaos in the country. As outside sources of capital and hard currency dried up, the country's economy contracted, leading to further unrest, more departures by foreign firms, and the cessation of tourism.

By mid-1995, growth was falling by 3-5 percent annually, unemployment was rising toward 25 percent (and over 35 percent in the larger urban areas), and the political situation was in turmoil. The theme of "its all America's fault" was played by all sides in the political chaos that evolved over the next three years. By the summer of 1998, anti-America feelings were at a peak, and on the 7th of June, a mob of over 100,000 angry Filipinos formed in Rizal Park and stormed the U.S. embassy. They overwhelmed the U.S. Marine guards, roughed up embassy staff, and burned several buildings in the embassy compound. The rioters then withdrew, leaving four dead Marines and a dozen badly injured embassy staffers behind.

CINCPAC received orders to evacuate all U.S. embassy personnel and any U.S. citizens still remaining in the city of Manila who could be rounded up in the early morning hours of 10 June 1998. Fortunately, the maritime component of Integrated Strike Force Alfa was off the coast of Hong Kong, having just completed a port visit, and they were dispatched at maximum speed toward the waters off Manila Bay. The Composite Wing was operating from the U.S. Air Base in Guam.

Plan of Attack

CINCPAC planners quickly put together a concept of operations based on the following:

- o Due to the distances from any available base, the Composite Wing would not be directly involved in the evacuation

unless strike operations would be required.

- o The Carrier Battle Group and the Amphibious Readiness Group would move to just over three miles from shore in the approaches to Manila Bay.

- o U.S. government would issue a statement condemning the violence and calling on "responsible authorities" to declare an immediate cease fire to permit the extraction of U.S. citizens and embassy personnel from Manila. It would be emphasized that whatever level of force necessary would be used to ensure the safety of U.S. citizens.

- o A Battalion level force of U.S. Marines would be airlifted into Rizal Park adjacent to the embassy compound shortly after nightfall on 9 June, taking up defensive positions around the perimeter of the compound. Extraction of all personnel via helicopter would commence immediately after the arrival of the Marines and the establishment of a defensive perimeter.

- o Two Cruisers and two Destroyers would move into the port of Manila, anchoring about 500 yards off the quay wall, just south of the Manila Hotel and immediately off-shore from the American embassy. They would be prepared to conduct naval gunfire to cover the Marines ashore. An Amphibious Helicopter Carrier would be anchored with them to provide a seaward landing deck, accept the evacuees, and provide medical support to the mission.

- o Special Operations forces would disperse to the known locations of Americans throughout Manila, focusing on the area

between U.S. Avenue and Paco Park, where virtually all of the Americans were living. They would be brought to the embassy compound immediately.

- o E-2 airborne early warning aircraft would remain up over Manila harbor, with fighter escort, to prevent any interference with the helicopter operations. EA-6B electronic warfare aircraft and S-3 intelligence gathering aircraft would also be airborne to monitor any Philippine military activity.

- o The entire operation would take approximately 48 hours.

Additional Military Activity

In the event of serious armed resistance by the Philippine military or any revolutionary group, the following additional military options were put on alert by CINCPAC:

- o Moving the Composite Wing to bases in Okinawa. Strikes by the Composite Wing on key telecommunications, defense, and electrical sites throughout Manila to paralyze all command and control.

- o Suppression of Philippine military air activity by CV aircraft and the Composite Wing.

- o Dispatch of an additional Amphibious Readiness Group to the region, although this would take at least seven days to "stand up" in CONUS and about fifteen days to arrive in theater. MPS support for the second ARG would also be underway from Diego Garcia to the vicinity of the Philippines.

- o Additional intelligence support from overhead sensors and

communications satellites.

- o Additional Special Forces airlifted to the ISF at sea.

What Does This Crisis Illustrate?

Evacuation is at the medium-to-low end of the vertical ladder of escalation in regional crisis. It can be conducted in a fairly benign immediate environment, or it can be conducted in a very intense combat setting. In the case of the Philippines, it is likely that the CV and ARG would have sufficient firepower to ensure an orderly withdrawal. If necessary, the Composite Wing could operate from bases in Okinawa and assist in suppressing any Philippine military forces seeking to interfere with the evacuation. The ISF is an excellent choice for this type of operation:

- o The ISF has a complete combat package that could deal with virtually any eventuality emerging from the evacuation and the attendant crisis.

- o The training and cohesion of the ISF would be a great asset in the synchronization of forces involved in the mission.

- o Given their forward presence in this scenario, the ISF could be on scene virtually immediately. If the ISF was forced to deploy to the Philippines from a CONUS-based surge posture, it would take about 15-20 days for the naval and marine elements to arrive to conduct the evacuation, although the carrier and several faster escorts could arrive sooner.

Overall, the ISF would be the force of choice for most

evacuation operations, providing overwhelming combat power and the ability to provide air and sea power to the rescuers.

Overall Key Points: A Strategic Perspective

Forces Ready Now. In all three of these scenarios, the ISF concept provides a flexible, well-integrated capability to the warfighting CINC. Rather than having to put together a force "from scratch" for the operation, the CINC has an "on the shelf" group of assets available to conduct operations ranging from non-combatant extraction to theater-level warfighting. All the building blocks of immediate fighting -- communications, logistics, physical knowledge of fellow combatants, training, and knowledge of the crisis arena -- are in place and available to the CINC.

Building Blocks. If additional forces are required, the ISF can be expanded quickly and efficiently. For example, in the case of the Syrian-Israeli peacekeeping mission, it would be relatively easy to airlift elements of the 82nd Airborne Division to Lebanon and have them "marry up" with the Marine Battalion to enhance the land power of the force. In each case, Special Forces could be quickly integrated into the ISF. Additional ships could be quickly brought into either the CVBG or the ARG, and additional planes could be added to the Composite Wing. Conversely, if multiple crises erupted, the ISF could be broken down into various component blocks. For example, if a crisis occurred in the Philippines requiring an evacuation during a

period of unrest on the Korean peninsula, the Composite Wing could be stationed in Okinawa and provide cover to the CVBG off the coast of Korea and to the ARG conducting the evacuation from the Philippines.

Forward Presence. The quick response of a forward-deployed ISF would be available if a rotational sequence was maintained to keep one ISF in each "side of the world" for a majority of the year. For example, an ISF could be periodically deployed to the Mediterranean, taking the place of the Navy Carrier Battle Group. Another ISF could operate in the Eastern Pacific, centered on Guam or Hawaii; or in the Central Pacific, centered around Guam. An ISF could likewise operate in the Indian, with some basing out of Diego Garcia -- although "reach" for many of the air force aircraft would be a problem. Finally, an ISF could deploy to the Persian Gulf, with the composite wing operating out of bases in Oman, UAE, Bahrain, Saudi Arabia, or Kuwait -- assuming permission from the regional states. In each of the three scenarios examined here, immediate response was an important ingredient in U.S. reaction. While surge forces could have been mobilized, their time "on top" would be long -- up to 20 days to the Persian Gulf and 10 days to the Eastern Mediterranean, even at top speeds, for the sea component. While air forces could be overhead many locations in a matter of hours, the lack of bases in many scenarios limits their capabilities when working in isolation.

Surge Force. If the defense draw down precluded maintaining a level of forces sufficient to support such forward presence,

the ISF could operate as a surge force centered on the east and west coasts of the United States. This would be less desirable, but again would be better than simply building forces up "from scratch" for each mission. In the three scenarios examined here, however, it is clear that forward deployed forces would be far better, permitting immediate action on the part of the United States and, most importantly, allowing control of the vertical ladder of escalation at an early stage in the crisis.

Economy of Force. In each case, the scenario required the use of certain elements of the ISF. In the Syrian-Israeli scenario, Turkey permitted the use of Incirlik to stage the Composite Wing. In the Iran-Iraq scenario, the Gulf States permitted the Composite Wing to operate from bases in Oman and the UAE. During the Philippines, finding an operating base for the Composite Wing proved difficult, although Okinawa was used. Frankly, it will often be difficult to obtain overseas bases that can support an entire Composite Wing. In such situations, the Composite Wing would move to the best base available, perhaps grouping some assets further forward at smaller available bases. In other scenarios, the scene of action might be considerably inland from the littoral of a continent, precluding the effective use of the CVBG or the ARG, and placing a premium on the inland placement of the Composite Wing at a secure base. The ISF commander and warfighting CINC would work to apply the correct assets in each situation.

Control of Escalation. In each case, the ISF is capable of integrating air and sea power to control the vertical ladder of

escalation, preventing unnecessary bloodshed. In the Philippines, the ISF possessed sufficient firepower and manpower to control a chaotic situation, suppress any counterattack, and accomplish its mission with vertical lift, airborne early warning, vertical envelopment, naval gunfire, and air strikes. In the Iran-Iraq scenario, the ISF was able to undertake a reasonable level of response, challenge the immediate tactical threat (closure of the Strait of Hormuz), and provide a solid center of military power around which further forces, if needed, could form. In the Syrian-Israeli peacekeeping scenario, the ISF could use its air and sea power to monitor the situation, provide early warning, suppress further violence on the part of the belligerent, and insert sufficient land power to accomplish the mission. For all three scenarios, the key was controlling the vertical ladder of escalation at a key point in the crisis to prevent further escalation.

ENDNOTES

1. George Bush, The National Security Strategy of the United States, U.S. Government Printing Office, Washington, DC, July, 1991, pp. 3-4.
2. Ibid, p. 3.
3. Colin Powell, The National Military Strategy, The Pentagon, Washington, D.C., January, 1992.
4. Ibid, pp. 6-8.
5. Ibid, p. 7.
6. Ibid., p. 14.
7. Ibid, pp. 8-9.
8. Ibid., p. 19.
9. Dick Cheney, Annual Report to the President and the Congress, Washington, DC, February, 1992, pp. 59-81.

VIII. CONCLUSIONS AND RECOMMENDATIONS

Integrated air and sea power will be at the heart of U.S. military power over the coming decades. Throughout the course of this study, I have examined potential regional security concerns for the United States, identifying possible crisis arenas in which air and sea power will be at a premium in controlling the vertical ladder of escalation. Air and sea power, when properly integrated, have a synergistic effect that produces a greater striking power than either alone can effect. Two historical uses of integrated air and sea power in the Falklands/Malvinas War and the Persian Gulf War have helped shape concept for integrating air and sea power in an optimal fashion for the U.S. military -- the Integrated Strike Force. The ISF concept is a new way to organize, train, deploy, and employ U.S. forces, and would have particular utility in regional crisis response.

The Integrated Strike Force is a melding of a Navy Carrier Battle Group, a Navy-Marine Corps Amphibious Readiness Group, and an Air Force Composite Wing as a means of organizing, training, deploying, and employing integrated air and sea power. In this final section, several broad conclusions emerge, as well as making a series of recommendations that could serve as a basis for further discussion, study, experimentation, and implementation of integrated air and sea power in regional crisis control.

Conclusions

At the broadest level, twelve major conclusions emerge from the work in this study:

- o Most uses of U.S. military power for the foreseeable future will occur in regional crisis. This is the result of the dissolution of the former Soviet Union, the end of a bipolar global security construct, the proliferation of weapons of mass destruction and advanced weapons of warfare, population growth and political instability in the developing world, and conflict over scarcer natural resources.

- o Three potential regional crisis arenas, in descending order of likely use of U.S. military power: Persian Gulf and the Mediterranean Middle East; Latin America/Caribbean; and East Asia. In the Persian Gulf, the presence of over 65 percent of the world's oil and two unstable and aggressive regimes (Iraq, Iran) will continue to produce crisis. Given our position of leadership and the needs of Western societies for oil, the U.S. can expect to be involved militarily in this region. The Mediterranean Middle East, with the seemingly intractable Arab-Israeli conflict, expanding populations, conflict over water, and an upward spiral of arms procurement will likewise be a potential crisis arena. Our ties with Israel and Egypt, as well as prestige invested in the peace process and the potential involvement of NATO ally Turkey will act to draw the U.S. into crises here. Latin America, with its proximity to the U.S., drug

problems, and political instability will also be a region of concern. The U.S. will be involved through business and economic concerns, treaty obligations (RIO pact), and ethnic linkages to the hispanic population in the United States. Finally, East Asia, with three Marxist totalitarian regimes (China, North Korea, Vietnam), increasing arms proliferation, unease about Japan, and severe economic problems (Philippines in particular) appears a likely region of crisis. The U.S. will be involved through bilateral treaties with Japan and South Korea and rapidly expanding business and economic interests throughout the region.

- o U.S. Military Force will be increasingly expeditionary in character in order to face regional crisis. The reasons are simple: Dwindling overseas base structure, a shrinking defense budget, an unwillingness of Congress to fund permanent overseas installations at the expense of bases in the United States, the emergence of Germany and Japan as global actors and the concomitant increasing discomfort of segments of their populations with permanent U.S. bases, and a lack of domestic support for lengthy overseas involvements. The Air Force, in particular, will pursue the concept of Composite Wings in order to improve its expeditionary capability.

- o Control of vertical escalation is the key to regional crisis control. Many regional crises can be contained by the rapid application of military forces before the crisis expands. This should not be taken as advocating immediate resort to military force. As a general rule, political and economic measures must first be attempted. Some crises, however, clearly

can be contained early in the crisis cycle, particularly if a large segment of military power can be applied in a concerted effort. The Integrated Strike Force provides that option.

- o Air and sea power must be integrated to be effective in regional crisis control. When air and sea power operate independently, their likelihood of success is lower, targeting suffers, and the chances of fratricide increase. When air and sea power are integrated under a single command structure they operate synergistically and the sum is far greater than the addition of the parts.

- o U.S. military forces, particularly expeditionary forces like Carrier Battle Groups, Amphibious Readiness Groups, and Composite Wings, should be grouped into Integrated Strike Forces. By melding these powerful expeditionary forces early in the organizational-training cycle and putting them into a single integrated command structure, a more powerful and effective warfighting force is created. This should be done using joint doctrine for Joint Task Forces, although an appendix should be added to deal specifically with the ISF concept.

- o Availability of bases will be a key driver in the effective use of land-based air in regional crisis control. In many situations, land-basing will be available, particularly in real crisis. There are bases that could be used by the Composite Wings in the Persian Gulf, Middle East, southern Mediterranean, East Asia, and Latin America. Whether host nations will permit base use is a direct function of their evaluation of their own interests in the crisis. In most scenarios that could reasonably

evolve, a host nation in the region could be found to provide basing. Additionally, there will be a network of overseas bases generally available to the U.S. for the foreseeable future -- including Diego Garcia, Japan/Okinawa, Panama, Italy/Sicily, Germany, U.K. -- where host nations have been willing to permit fairly wide latitude in operations. Finally, the U.S. has some overseas installations in the Pacific and Caribbean (Hawaii, Alaska, Guam, Puerto Rico) from which some forward basing can occur.

- o Two valuable crises to examine in order to study the integration of air and sea power are the Falklands and the Gulf Wars. Each offers an insight into integrated air and sea power, but with very different paradigms. In the Falklands, medium technology, limited time, and a lack of bases forced the British to undertake many "work arounds" to deal with challenges. In the Gulf War, high technology, plenty of time, and many bases provided the U.S. with powerful advantages.

- o Eight key issues in integrating air and sea power for regional crisis control are: Defining capabilities; using economy of force; establishing effective command and control; processing targets intelligently, providing logistic support (especially bases for the composite wings); establishing sea and air control of the crisis arena; sequencing forces into the crisis arena; and executing effective conflict termination. Based on analysis of the vertical ladder of escalation in modern regional crisis control -- particularly in the Falklands/Malvinas War and the Gulf War -- these eight key issues must be considered

by planners.

- o Early training and integration of air and sea power is crucial to the successful use of forces in regional crisis control. The principle advantage of the ISF concept is that it provides an integrated, trained, and combat-ready joint task force to a warfighting CINC. It achieves a state of integration and combat readiness through six months of integrated training before reporting as a ready force to the warfighting CINC.

- o Integrated Strike Forces should be organized around training, deployment, scouting, targeting, and striking. These fundamental aspects of warfighting form the bedrock of the preparation and execution phases for the ISF in regional crisis. Each should receive direct attention from the ISF commander and the CINC prior to the ISF reporting as a ready force.

- o Integrated Strike Forces must be scheduled for exercises, deployments and operations through annual CINC conferences, although the NCA can override the schedule in cases of emergent regional crisis. Using the same approach the Navy has traditionally used for Carrier Battle Groups, the CINCs can work out a schedule for the training, deployment, and employment of the ISFs on an annualized basis. The final decisions should be approved by either the Chairman JCS or the Secretary of Defense.

Recommendations

The recommendations below represent a starting point in the

debate over how to structure, organize, command, train, deploy, and employ U.S. air and sea forces. I believe we need a new system for organizing our forces more efficiently to provide ready combat power to the warfighting CINCs. The recommendations below are proposed to serve as a test of the ISF concept, and could be implemented on a single coast by one group of forces simply to try out the integrating concept. If the concept works operationally, an ISF should be forward deployed, again as an experiment. If the forward deployment works, it would be logical to try and stand up two ISFs, one per coast. If the concept still appears to be successful, more forces could be shifted to the concept, eventually leading to a system of four ISFs, two per coast, at any given time -- one in the six month training cycle and the other in a ready posture. At the conclusion of the ready period of roughly 180 days, the forces would be returned to the parent service for rest and maintenance/upkeep before re-entering the ISF training cycle another 6-12 months downstream. The period of time necessary to fully "test out" the concept would be 2-3 years, although various operational aspects could be validated in as little as 12 months.

With that broad construct, the following recommendations are offered:

- o **Devote a higher percentage of Air Force Assets to expeditionary Composite Wings.** The Air Force is currently "standing up" two experimental Composite Wings. After full testing and evaluation, the Air Force should consider developing

five Composite Wings. Four should be "Air Intervention Wings" with F-15C/E, F-16, EF-111, F-117, and B52/B1 aircraft, plus support (AWACS and Tankers). One should be a "Battlefield Attack Wing" to provide support and essentially organic air power to the 82nd Airborne Division, with an emphasis on F/A-16, A-10, OA-10, C-130 and AC-130 aircraft. The four air intervention wings should be used to support the development of two Integrated Strike Forces, one per coast.

- o Stand up a single Integrated Strike Force. Use the first force as a testing ground for the operational aspects of the concept. Incorporate a Carrier Battle Group, an Amphibious Readiness Group, and an Air Force Composite Wing. Headquarter the ISF in the Norfolk area, which has all the facilities necessary. Task CINCLANT to put the first ISF together, write an appendix to joint doctrine to cover the ISF concept, and formalize a training and validation concept.

- o Conduct a relatively simple exercise using the Integrated Strike Force in CONUS. Have the ISF conduct a NEO from a training area in the southeastern United States. Emphasize interoperability, exercise ISF doctrine, stress command and control. Draw lessons learned.

- o Deploy an Integrated Strike Force to the vicinity of a U.S. base outside of CONUS. Possibilities include the Caribbean, staging the Composite Wing from Puerto Rico; the Pacific, using Guam; or the Mediterranean using bases in Italy or Sicily. Stress logistics, command and control, training, and scouting. Conduct a series of simple exercises, simulating a presence

mission. Conduct liberty visits for various units of the ISF in the region, and practice moving forces in the theater using ISF assets.

- o Stand up a second Integrated Strike Force on the Pacific Coast. Operate it out of Washington State, and conduct similar exercises to the East Coast ISF. Incorporate the lessons learned from the first ISF into the stand up of the second unit, particularly including doctrinal, command and control, and training issues.

- o Deploy the second Integrated Strike Force to a base outside of CONUS. Perhaps Guam, Japan, or South Korea would a potential location for the second Integrated Strike Force's first deployment. Use this second deployment to validate doctrine developed by the first Integrated Strike Force.

- o Step back and conduct a zero-base study of the concept. Bring in operators who worked with the first two Integrated Strike Forces, staff officers who helped develop the joint doctrine, and service representatives -- particularly logistic experts. Look at the current military force levels (hopefully the proposed 1995 base force) and work out the number of ISFs that could be sustained and the impact on other commitments. Draft a proposed three year cycle for four ISFs, two in the training cycle and two "on call." Include in the plan the likely schedule of exercises, deployments, and operations. Gain CINC, JCS, and OSD approval of the plan.

- o Conduct a two year cycle test of the concept with a total of four ISFs. Execute the plan developed under the

recommendation outlined above. A notional plan would be to deploy one ISF to the Western Mediterranean and one to the Indian Ocean. Basing could be in Sicily and on Diego Garcia for the Composite Wing. A second pair of deployments could be to the Persian Gulf if host country support was forthcoming and to the Caribbean, with basing out of Puerto Rico.

- o Refine the concept, finalize ISF doctrine as an appendix to joint task force doctrine, and begin annual global scheduling conferences for the Integrated Strike Forces. As a longer term project, consider the addition of Army forces in an expeditionary role, probably light infantry divisions. Begin to include allies in the structure of exercises and operations.

- o Use Integrated Strike Forces as the primary instrument of overseas crisis response, peacetime deployment, and exercise participation for air and sea forces. This will mean restructuring U.S. overseas commitments in all three key categories -- routine deployment, exercise play, and commitment to respond in crisis. As discussed above, the new commitments would be met after global scheduling of the Integrated Strike Forces.

- o Consider changes to the Unified Command Plan and appropriate doctrine to reflect the existence of Integrated Strike Forces and their role. The concept of notional ISFs would fit well within the idea of a simplified UCP with only four CINCs -- LANT, PAC, STRAT, and SUPPORT -- which some analysts have proposed. Such decisions are in the future, and will be driven by the global play of events and the role the United States wants

to play in them. At a minimum, however, joint doctrine and certain technical aspects of the UCP will need to be revised if the ISF concept is adopted. That is a major project and it should be gradually accomplished over the years that this concept (or a similar one) is considered, modified, and eventually instituted. Such changes will be evolutionary in character, and justifiably so.

o Consider downstream force size and balance changes based on the Integrated Strike Force concept. In any study like this, there are follow-on questions that emerge. We are in a time of change in the size and structure of our armed forces. For example, much of the rationale for large, heavy Army divisions has been undermined by the end of the Cold War and the threat in Europe. The administration has accordingly downsized the Army, along with the other services. As the ISF concept is tested, it is necessary to examine in parallel the size and balance of the overall armed forces. The purpose of this study is not to make specific recommendations on the eventual size of that overall force -- which should be driven by interests, vulnerabilities, and threats, not by structural concerns. The function of this study is rather to suggest a new way to organize portions of our current forces -- the base force -- to be more efficient, more expeditionary, more joint, and more tactically effective. But if the ISF concept is eventually adopted in some form, it will be prudent to examine the answers to questions like these:

-- What force structure would be necessary to support the ISF concept if it is eventually adopted? While the concept

as outlined here can be supported with the currently envisioned base force of 1992, will we eventually want to alter the shape and mix of our forces to more efficiently support the concept? I think the answer will be yes, and we will want a higher proportion of expeditionary forces in our inventory -- but that is a decision that will unfold with time.

-- Will an ISF concept allow for a smaller structure because we can fight smarter and more efficiently? Until we have fully tested the concept, we won't know for sure. If it does, which seems logical, where could cuts be made most efficiently? And finally, with the ISF concept, how will our overseas commitments be affected? I have suggested several patterns for overseas deployments based on a notional force of two ISFs, one per coast "on call." Are we prepared to accept the greatly reduced overseas presence that would entail, especially in the potentially turbulent Mediterranean and Persian Gulf? This is at the heart of our force size and structure decisions, and the answer will depend on events in the years ahead.

A Final Thought

All of this is a new conceptual approach to structuring, organizing, training, deploying, and employing air and sea power to contain regional crisis. The Integrated Strike Force is but one of countless new ideas that should be considered in the quest to find better, more efficient ways to conduct truly interoperable military missions. I have focused here on air and

sea power because I believe they represent the most likely use of military power over the next two decades. There may well be situations where land power is the most critical element of the security process. Even so, air and sea power will be vital to the effective use of that land power. I therefore believe we will achieve our best return on investment with military resources to focus on achieving a better integrated air and sea power force. General Powell said in 1991 that all he knew for sure about his first two years as Chairman was that he had seen twelve crises and he knew he'd see a thirteenth as well. In a way, he was echoing the Greek philosopher who said only the dead have seen the end of war. My hope is that by learning to fight better, we shall fight less. I do not believe in my lifetime we shall cease to fight, but I do believe we can learn to fight better. I hope the ideas discussed above spark further debate and eventually lead to a U.S. military that can fight better -- especially through integrating air and sea power. Change is what makes us bold, said Napoleon; and today, more than ever, change is a process in acceleration. We must move on with new ideas and new ways of doing business if our nation is to remain free and safe in a changing world.

