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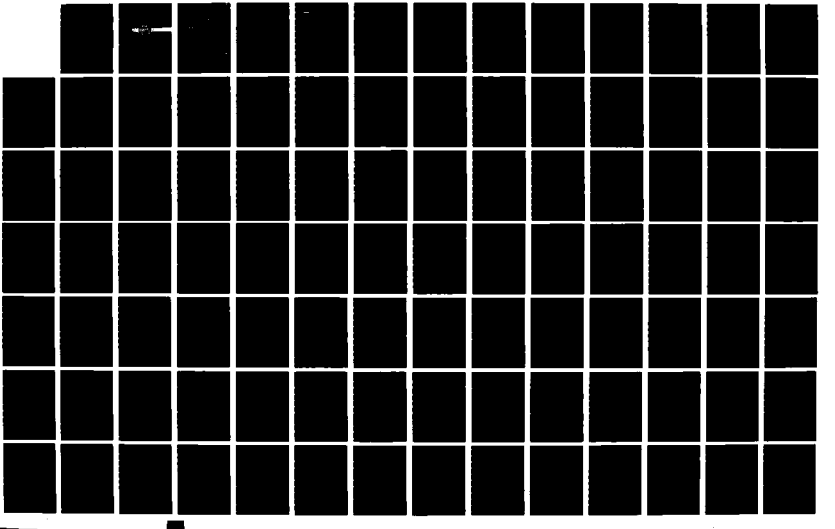

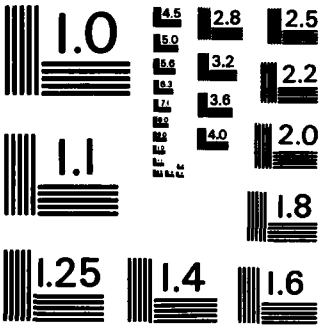

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THE ROLE OF AIR POWER IN LOW INTENSITY CONFLICT

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SYMPOSIUM PAPERS

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THE NINTH AIR UNIVERSITY
AIRPOWER SYMPOSIUM
11-13 March 1985

THE ROLE OF AIRPOWER IN LOW INTENSITY CONFLICT

APPENDIX 2 to the PROCEEDINGS
AUTHORS' PAPERS OF SESSION II

EDITED BY: Lt Col Allen Dodson, USAF (Faculty Advisor)
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STRATEGY FOR LOW INTENSITY CONFLICT

Thomas A. Cardwell III
Colonel, USAF

**Prepared for Presentation at the
Ninth Air University Airpower Symposium
"The Role of Airpower in Low-Intensity Conflict"
Air War College
Maxwell Air Force Base, Alabama
11-13 March 1985**

The views and conclusions expressed in this paper are those of the author and do not reflect the official policy or position of the Department of Defense or the United States Government.

BIOGRAPHY

Colonel Thomas A. Cardwell III, USAF, is currently the Chief of the Strategy Concepts Branch, Strategy Division, OJCS/J-5. Prior to assuming this position he served as the Deputy Commander for Operations, 323 Flying Training Wing, Mather AFB, California.

Colonel Cardwell has had numerous staff and operational flying assignments. He served on the Air Staff in the Doctrine and Concepts Division, DCS/Plans and Operations, HQ USAF, and had flying assignments in TAC, PACAF and ADCOM. He has also served on numerous allied working committees to include the US Representative to NATO's Tactical Air Working Party and Tri-Service Group on Air Defense, and the USAF Representative to NATO's Land Force Tactical Doctrine Working Party.

Colonel Cardwell is a command pilot with over 2,800 hours in fighter and trainer aircraft. He flew 100 combat missions over North Vietnam in the F-4.

Colonel Cardwell is a distinguished graduate of the Air War College, Class of 1982, and his decorations include the Distinguished Flying Cross, Meritorious Service Medal with 2 OLC, Air Medal with 15 OLC, Presidential Unit Citation, Air Force Outstanding Unit Award with Valor and 1 OLC, and the Combat Readiness Medal.

STRATEGY FOR LOW INTENSITY CONFLICT

INTRODUCTION

Much has been written recently on the subject of non-nuclear, unconventional, limited war--or, **low intensity conflict.**

These articles have raised our awareness of a very real threat in today's world. General Wallace H. Nutting, USA, summed it up when he said "I believe that low-intensity conflict is the most important strategic issue facing the U.S. If we don't learn to deal with it we risk being isolated in an increasingly competitive world."[1]

Low intensity conflict, for the purpose of this paper, is defined as **conflict at the lower end of the warfare spectrum.*** (Global nuclear war is at the top end of the scale and regional conventional war is in the middle.) Low intensity conflict includes, but is not limited to, terrorism (including random acts of violence), unconventional warfare, guerrilla operations, revolutionary wars, and limited wars. Of course, no precise definition

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* See note 10.

has been attached to this type of conflict nor can specific tags or labels be attached. At issue is not the definition. We can argue at length over the precise definition and never get to the heart of the matter. Suffice it to say that what military planners must consider, and come to grips with, is how to handle military operations at the lower end of the conflict spectrum.

The **purpose** of this paper is to propose an operational strategy for low intensity conflict in support of our national objectives and strategy. Central to this issue, whether considering employment of air, land or naval forces, is the internal conflict within each of the Services on allocation of resourses--competition of dollars for low intensity conflict and conventional and nuclear war--priorities and forces disposition.

BACKGROUND

Traditionally, the U.S. has thought in global or regional terms--NATO, nuclear war with the Soviets, conventional war in Europe, or a naval campaign in the Pacific. With the upswing in recent years in terrorism, and revolutionary and limited wars, the military establishment has had to rethink its strategy for military operations for low intensity conflicts.

If one looks at our national objectives, policy and strategy, we find very generalized statements. These include such statements as: preserve the U.S. as a free nation with its fundamental institutions and values intact--military strategy seeks to deter attacks against the U.S. and its allies, and provide the National Command Authorities the flexibility to respond to any level of aggression and therefore must be capable of meeting regional elements and threats of a global dimension--it is clear that U.S. military forces must be adequate to confront a wide range of challenges, from low intensity conflict to threats of wider scope involving modern conventional and nuclear forces.[2] These broad policy statements provide the backdrop for developing an **operational strategy** for low intensity conflict.

The military is responsible for protecting the U.S. from aggression at **any level** of conflict. The responsibility for protecting the U.S. includes both **interests** and **territory**. This simply means we must be prepared to handle any situation from terrorism, limited conventional war to global nuclear war. As it relates to low intensity warfare, the aspect of **interest** is paramount; therefore the U.S. military establishment must be prepared to protect U.S. interests during any situation involving terrorism, sabotage, subversion, insurgency, and limited conventional warfare.

At times we tend to pay only lip service to this responsibility--to respond to all threats and to be able to meet all challenges. This is because the military planner must come up with the proper hardware and forces, in the appropriate mix, to meet this challenge. It is not an easy task. How does one plan for all aspects of warfare given the constraints of resources? How can we develop an operational strategy to accomplish the national objective of maintaining our freedom--or perhaps the question should be how do we develop a strategy that allows the U.S. to compete with the Soviet Union in third-fourth world countries? How do we cope with low intensity conflict given our current force disposition?

To answer these questions is not easy. We have attempted to answer them by using a broad-brush approach. This approach proves useful in that it provides the **framework** within which debates over the issues can take place. It appears we can boil the questions down to **one** that will provide a workable foundation to develop a strategy for low intensity conflict. That question is: **What strategy should the U.S. have so that we may maintain economic-political access to the third and fourth world countries?** Once we have answered this question we can then develop forces, procedures and tactics to handle low level intensity conflicts.

To try to make sense out of the seemingly complex issue of developing a strategy for low intensity conflict requires dissecting the problem into smaller parts then reassembling them into the whole--**a strategy for low intensity conflict.** The approach I will use is to provide a working definition, lay the foundation for a discussion on strategy, then provide a proposed operational strategy for low intensity conflict.

DEFINITION

The first step is to define the term low intensity conflict. As stated earlier, I have chosen a definition that bounds the paramenters of low intensity conflict. Granted, this approach does not provide a precise nor concise definition, but does provide a framework within which we can discuss the issue. Thus, this approach provides a common frame of reference by using a working definition of the term that recognizes there are other competing terms and definitions to describe this level of warfare--for example, internal war, unconventional warfare, mid-intensity conflict, and so on.

The key point is not the precise definition. That is to say, low intensity conflicts encompass numerous, predictable actions leading up to high-intensity conflict or warfare. These include all the elements of actions ranging from subversion, sabotage, insurgency, to low intensity conventional warfare. If one accepts the premise that warfare is a

continium of actions and can be expressed as a spectrum of conflict*, then the dividing line between low intensity conflict and mid intensity warfare--leading to high intensity conventional warfare and eventually global nuclear warfare--is territory. Actions towards the lower end of the spectrum of conflict--to the left of the invisable dividing line called territorial interest--would be labled low intensity conflict. Once the territorial dividing line has been crossed, actions are no longer termed low intensity but are now mid to high intensity warfare. (It should be noted that low intensity type actions--for example, sabotage or terrorism, etc--can still occur at the upper end of the spectrum of conflict). By defining low level intensity conflict as a continium of actions ranging from terrorism, crises and small wars through counterrevolutionary warfare which require a tailored limited action, we can now discuss a strategy for low intensity conflicts.[3]

The term strategy, too, has various meanings. I have chosen to use the definition as found in JCS Publication 1. The definition of strategy is simply the art and science of developing and using the instruments of national

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* See note 10.

power--political, economic, psychological and military--as necessary to increase the chances and favorable consequence of victory and to lessen defeat.[4]

Within this broad definition there are two subsets--military and national strategies. **National strategy** is that part of overall strategy that contributes directly to national objectives,[5] while **military strategy** is the use of military force, or threat of the use of military force, to achieve national strategy and objectives.[6] It is the latter, military strategy, that will be dealt with in this paper.

Military strategy is formed by our national security requirements. As it relates to low intensity conflicts, our security requirements are based upon regional considerations.[7] These regional considerations lead us to state that military strategy is designed to meet the challenges to our security interests and "it is clear that U.S. military strategy and force levels must be adequate to confront a wide range of challenges, from low-intensity conflict in remote regions to threats of wider scope . . ."[8]

Military strategy is developed by the Joint Chiefs of Staff, in concert with the military Services, and in response to Department of Defense Guidance as contained in our national security objectives. Based upon our strategy, the unified and

specified commands are then charged with preparing operational plans to carry out the broad guidance provided by the Joint Chiefs of Staff.

Due to the nature of low intensity conflict, a myriad of plans and unique operational capabilities are required. It is this point that causes military planners nightmares.

The threat to our national security interests, obviously, drives our plans and operations. It is beyond the scope of this paper to address the specific threat; however, the failure of the Soviets to achieve their objectives through the direct application of military forces, as in the Korean conflict, has caused them to turn to other means--all at the lower end of the conflict spectrum. Thus, the possibility of low level intensity conflicts is real and will continue to be a possibility in the forseeable future.[9] For that reason, we must plan for operations to counter low intensity conflicts.

STRATEGY CONSIDERATIONS

One may tend to say we have no strategy to conduct military operations for low intensity conflict. After all, the title of this paper is Strategy for Low Intensity Conflict. Does this mean we have no strategy? Quite the contrary, we do have a strategy. At the national level we have very broad guidance--military strategy--that states we must be prepared to meet all challenges. The range of possible conflicts is wide--

from global war to limited unconventional war.[10] Our strategy goes on to state that the U.S. military force must be prepared to conduct military operations at all levels of the spectrum of conflict and to prevent lower levels of conflict we must encourage "the development of adequate local forces though security assistance programs and aid from other friendly nations."[11]

In developing national strategy, certain considerations were addressed. These included nuclear deterrence and arms control, alliances, forward-deployed forces, reserves, and mobility.[12] Once these factors were considered, the strategy was developed and now all that remains is to develop an operational strategy--the bridge between national strategy and the concept of operations.

In developing the strategy, based upon the above considerations, we find that we can not provide military forces to defend **simultaneously** every threat with equal strength. "Nonetheless, the United States must make it clear that its interests will be defended and obligations to allies met."[13] Of course, general strategic priorities would govern employment of U.S. forces[14] and the situation will determine the type of forces we would use.

We see that we have broad **strategy** for employing U.S. military forces across a wide range of conficts; but, do not, or may not, have sufficient **forces available** to meet all

threats simultaneously. Nor may we have the capability, in terms of hardware, to respond to all threats at once.

It should be pointed out that our position has drastically improved over the last few years. The Services, as force providers, have increased our capability to respond to low intensity conflicts. The current administration has recognized the need for a strong military posture and "has taken the position that threats (of low intensity conflict) do exist and that there is a need to develop policy, (operational) strategy, and capabilities to respond."[15]

CURRENT DEVELOPMENT

A major problem military planners face is that we, as a nation, have long focused upon large scale war--conventional or nuclear. Our experiences had been with world wars. Then came the 1950's with its limited wars and our attention was directed towards small scale wars. We tend to view, in the American way of thinking, war as a technological and managerial conflict where large masses of forces face each other on the battlefield. However, the experiences of Korea, Vietnam, the Middle East, Grenada, and South and Latin America have tended to bring our traditional view of wars, our Judeo-Christian ethic, and our scheme for dealing with low intensity wars into conflict.

To deal with this conflict, military planners had to shift from thinking in terms of conventional-nuclear, attrition modeled, technology-intensive warfare, to one of unconventional, socio-political, protracted and labor-intensive warfare.[16] This means that we must shift from the normal way we prepare plans--based upon large forces that relied upon technology to fight the battle--to looking at planning from a more narrow focused perspective--based upon long term, small battles, which may not rely upon attrition nor technology. The aim is no longer to gain and hold territory, but to maintain political and economic access to the third world by preempting the Soviets from achieving their expansion aims.

With the push from the Reagan Administration, our capability to respond to low level intensity confict has vastly improved. The U.S. capability to conduct low intensity conflicts (special operations) ". . . is being rebuilt after years of neglect following our exit from Vietnam."[17]

Each of the services have special operations forces to be employed in low intensity conflicts. For example, the U.S. Army's First Special Operations Command (SOCOM), the U.S. Air Force's 23d Air Force and the U.S. Navy's Special Warfare Groups have been formed to handle these special operations requirement. Our unified commands have contingency plans to handle small wars within their regional area of responsibility. (However, it should be noted that our focus is still upon large

scale regional operations and global warfare. No OPLAN deals specifically with low intensity conflict but are always an adjunt to conventional strategic operations).

PROBLEM

There are varied views on the **strategy** that should be used to employ our **forces** in low level intensity conflicts. These range from relying on dedicated special forces with specialized equipment to integrating of current forces and equipment.[18]

The **problem** is to develop an operational strategy that ensures success, or at least resolution on terms acceptable to the U.S. and its allies, of the conflict.

This in itself may pose a major stumbling block, as, how do we determine which conflict(s) do we get involved in? Of course this is not a military decision but a political one. However, once a decision is made, how do we ensure its sucess or favorable resoultion? Again, a tough question; and, again a political decision that is not totally within the perview of military planners. It should be noted that the military, as a **part** of that political decision making process, will provide our best military advice to the **National Command Authorities**. Once a decision is made--to be or not to be involved in a low level intensity conflict--the military is then charged with the responsibility to carry out the objectives as established by the **National Command Authorities**.

Now, if the military is to plan for all types of warfare, how do we insure that we are prepared? We do that by having an **operational strategy.**

This strategy must address the issue of resource allocation and priorities within the scheme of plans for low intensity warfare.

OPERATIONAL STRATEGY

The tendency is to overreact when faced with a new challenge. For example, to meet this challenge of change, the U.S. Army established the 1st Special Operations Command.[19] Then the other services followed suit with their special operations forces. This, of course, in itself is not bad; however, the problem lies in **overreacting** without giving due consideration to the way these forces will be integrated and employed--the organization, if you will.

There are two schools of thought on this. One states that our unified command structure is not the way to fight low intensity conflicts. The argument goes someting like this: the unified command structure, with its attrition/relational orientaton, can not be responsive to low intensity conflicts; the stucture it too rigid and therefore not responsive to these conflicts; and the bureaucratic, exceedlingly complex internal

staff and over-administered and minutely regulated unified command can not cope with the requirements of low intensity conflicts.[20]

The other school of thought states that the unified command structure is the way to fight low intensity conflicts. The argument goes something like this: the unified and specified concept of operations allows for special operations through its various subordinate command arrangements; regional plans do allow for low intensity conflicts; and the Joint Staff is responsive to the needs of these type of conflicts.

At the heart of the operational strategy must be the organizatonal structure to support low level intensity conflict. The U.S. unified and specified command structure is capable of handling low intensity conflict. This structure allows for conducting low intensity conflicts through one of three ways--**unified command** by a joint task force or sub-unified command; **joint task force**; or a **specified command.**

The specified command structure is a command that "has a broad continuing mission. . . (and) normally is composed of forces from but one Service."[21] This form would be appropriate if only **one** service was providing forces. For example, the U.S. Army's 1st Special Operations Command could fulfill a specified command requirement.

A joint task force would be the more appropriate way to go once military action is required. Depending upon the

operation, a joint task force separately employed or a joint task force employed under a unified command would be able to accomplish the objective. A joint task force is defined as "a force composed of assigned or attached elements of the Army, the Navy or the Marine Corps, and the Air Force, or two or more of these Services . . . . A joint task force . . . is not a permanent command arrangement. It is established when the mission to be accomplished has a specific limited objective . . ."[22]

The Joint Task Force--composed of two or more Service forces--whether employed as a separate command or under one of the unified commands, is derrived from Unified Action Armed Forces guidance. This guidance provides that a Joint Task Force can be established in one of these two ways.

Now with the overall strategy set and a command structure proposed, we can develop the operational strategy to accomplish our national objectives.

In broad terms, our strategy should be to have sufficient forces, with the appropriate armament and capabilities, to handle all low intensity contingencies. This could require large forces and extensive hardware or small forces with specialized hardware. Of course, a proper balance must be struck. The problem becomes one of training and balancing forces structured for theater orientated operations and limited warfare. Training of these forces and procurement of forces is

not nearly as tricky as providing the **proper balance** in hardware to support these forces.

This problem is more acute for land forces than it is for air forces. The U.S. Army has addressed this problem in its Light Infantry and rapid mobile forces. Assuming they are correct and have the proper amount of forces to handle the situation or operation, the next step is to insure these forces have the proper equipment. This is a service function--providing forces and equipment--and requires the Army to be prepared to meet the challenge of low intensity conflict.

The Air Force, on the other hand, has the equipment to handle low intensity conflicts. Maybe not in the quanity desired, but none-the-less, does have the hardware--e.g., F-4s, A-10s, AC-103 helos (and will be helped with the introduction of the JVX and Air Force SOFs). The problem for the Air Force is one of orientation. Traditionally, the Air Force has thought in terms of theater-wide operations. Organizationally, it is structured to handle wide ranges of airpower employment.[23] This approach is valid for theater-wide operations, but a sub set of the organization is required to handle low intensity conflicts.

The Navy special warfare units are designed to support naval campaigns of unified operations. They could, of course,

be detailed to support a joint task force if the need arose. This would depend upon the tactical situation or operation planned.

The operational strategy to employ our special operations forces relies upon an organizational structure designed to handle low intensity conflicts. That structure should be the **joint task force** where a single commander exercise operational command over the components. The components--air, land or naval--would depend upon the operations planned.

The operational strategy must account for rapid employment of forces to any region of the world. By necessity, this means heavy reliance upon airpower--airlift. Sustained operations requires reliance upon seapower--sealift--with continued airlift support. The experience of the Falklands--although more properly labeled a mid-intensity--conflict pointed up the need to properly apply air and seapower to keep our lines of communication open.[24]

Additionally, our operational strategy must have the inherent flexibility to change to the demands of the situation--a rapid strike capability.

Simply stated, our operational strategy, to be responsive to the U.S. military strategy, must be one of flexibility coupled with mobility to account for the changing tactical situation. It must consider force composition and armaments to support that force.

It is up to the Services to develop the concepts and doctrine to support the strategy for low level intensity conflicts. Once this has been developed, joint doctrine must be written to insure the effective employment of our military forces.

Now we can articulate this strategy is by stating that our **operational strategy for low intensity conflict is:** the ability to distribute and apply military means to fulfill our national policy at all levels of conflict. Success of this strategy depends upon a sound calculation of objectives and means that requires that the means employed should be proportional to the objective being sought.

To accomplish this operational strategy requires a **concept of operations.** This concept must be designed to account for two levels of conflict--low intensity and mid-high intensity. This concept is based upon a two-tiered battlefield. One tier is the traditional theater type operation where joint or combined forces are engaged upon the air-land-naval battlefield. The other tier is the low intensity conflict where special operations are the campaign centerpiece. This concept of operations integrates **both battlefields'** operational tactics to fight and win on a two-tired battlefield when required.

The mission of special operations to support this concept of operation is to prepare, employ or provide, and sustain

special forces to conduct foreign internal defense, unconventional warfare, strategic and tactical intelligence, psyop, counterterrorism and related operations in support of U.S. national objectives and military strategy in peace and war.

It should be noted that **special operations** are military operations conducted by specially trained, equipped and organized forces against strategic or tactical interests in pursuit of national military, political, economic or psychological objectives. Special operations are normally authorized by the **N**ational **C**ommand **A**uthorities and conducted under the direction of the **NCA** or designated unified commander.

SUMMARY

To tie all this together the following is provided. First, we must rethink our strategy for employment of forces in low intensity conflicts. It is incumbent upon us that we develop a coherent strategy and establish priorities for courses of action if military action is required in low intensity situations.

Second, we must understand the nature of low intensity conflict. We need to re-orient our thinking towards unconventional type warfare where the focus is upon internal strife, discontent, agitation, sabotage, etc. This

understanding is crucial if we are to develop plans for force employment in low intensity conflict.

Third, the Services must establish priorities for force and hardware development for special operations for low intensity conflict.

Fourth, we must come to grips with this very real threat to our survival as a nation and articulate that threat to our national leaders so that appropriate action--political, economic, military--can be taken early to influence the outcome of any low intensity conflict before it spreads to mid-high level warfare.

In closing, military planners must come to grips with how to employ military forces in low level intensity conflicts. That employment must be based upon the strategy espoused in joint documents. The employment relies upon an organization which must be capable of handling low intensity conflicts. Having said that, the Services must come to grips with resource allocation--spending money on forces, equipment and training. As low intensity warfare is not as visible as conventional or nuclear warfare, it does not compete well in the division of funds. Therefore, the Services must insure that the case is made for equipment to support low intensity conflicts so it can complete for the budget dollars.

If we don't, we may indeed be isolated in any increasingly competitive world.

NOTES

1 Lieutenant General W. H. Nutting, USA, "Nutting: Stand Fast," Newsweek, 6 June 1983, p. 23, as quoted in Col Kenneth J. Alnwick's, USAF, article "Perspectives on Airpower at the Low End of the Conflict Spectrum," Air University Review, March-April 1984, p. 17.

2 "Military Posture FY 1985," OJCS, Washington DC, pp 1 and 3. The words have been paraphased from the guidance provided in this document. See also George Tanham, et al, "United States Preparation for Future Low-Level Conflict," Conflict, (No 1 & 2, 1978), pp 1-20.

3 Dr. L. E. Grinter, "Low-Intensity Conflict and Modern Technology Workshop," CADRE, Policy Panel, 22-23 March 1984, unpublished working notes, p. 3, has defined low level intensity conflict as: **Non-nuclear situations ranging from terrorism, crises, and small wars to revolutions and counterrevolutions that require tailored limited responses short of national mobilization and often in conjunction with host regimes and third countries. These actions are likely to be military or paramilitary for short situations, but of mixed political-economic-military-and other character for revolutionary and protracted conflicts.**

4 JCS Publication 1, "DOD Dictionary of Military and Associated Terms," JCS, 1 Apr 84, p. 351. Strategy is defined as: "The art and science of developing and using political, economic, psychological, and military forces as necessary during peace and war, to afford the maximum support to policies, in order to increase the probabilities and favorable consequences of victory and to lessen the chances of defeat."

5 Ibid, p. 244.

6 Ibid, p. 232. See also "Military Posture FY 1985" p. 8. U.S. Military Strategy is defined as "the US security requirements . . . form the basis for US Military Strategy, which is designed to support the more comprehensive national security strategy - a strategy that takes into account all elements of the nations strengths, not just its military capabilities."

7 "Military Posture FY 1985," p. 2.

8 Ibid, p. 7.

9 Richard H. Shultz, Jr in his unpublished paper "Low-Intensity Conflict and US Policy: Regional Threats, Soviet Involvement, and the American Response," National Strategy Information Center, Washington, DC, undated draft, pp. 9-30, describes the threat very well.

10 Ibid, p. 9. Shultz has an excellent graphic that shows the spectrum of conflict. Printed below is that chart.

SPECTRUM OF CONFLICT

0	1	2	3	4
Normal Diplomacy	Pol-Eco Sanctions & Peace-Keeping	Subversion Sobotage Terrorism & Coups	In-Surgency	Low-Intensity Conven-tional Warfare

RANGE OF LOW INTENSITY CONFLICT

5	6	7	8
Mid-Intensity Conventional Warfare & UW	High-Intensity Conventional Warfare & UW	Theater Nuclear Warfare & UW	STRT NUC War & UW

RANGE OF LOW INTENSITY CONFLICT

11 "Military Posture FY 85", p. 8.

12 Ibid, p. 8.

13 Ibid, p. 9.

14 Ibid

15 Shultz, p. 31.

16 Grinter, p. 4.

17 Ibid.

[18] Colonel Kenneth J. Alnwick, "Perspectives on Airpower at the Low End of the Conflict Spectrum, "Air University Review, March-April 1984, pp. 17-28; Lietenant Colonel David C. Schlachter, "Another Perspective on Airpower at the Low End of the Conflict Spectrum, "Air University Review, July-August 1984, pp. 87-88; and Edward N. Luttwak, "Notes on Low-Intensity Warfare," Parameters, December 1983, pp. 11-18; are but a few of the articles which address the employment of military forces in low level intensity conflicts.

[19] Schultz, p. 31.

[20] Luttwak, pp. 13-16. See note 18 above.

[21] JCS Pub 2. "Unified Action Armed Forces," Oct 1974, p. 41.

[22] Ibid, p. 42.

[23] This is not to suggest that the Air Force abandon its theaterwide approach. The single manager for air concept is still valid. It is merely a matter of orientation -- thinking in terms of limited conflict using the principles of single manager for air.

[24] Group Captain T. Garden, RAF, "Technology Lessons of the Falklands Conflict," undated and unpublished draft. He cites two excellent sources of information on the Falklands conflict: "The Falklands Campaign: The Lessons," CMMD 8758, HMSO Dec 82, official British Government account; and The Battle for the Falklands, by Max Hastings and Simon Jenkins, Michael Joseph, London, 1983.

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DOCTRINE FOR LOW INTENSITY CONFLICT

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Prepared for Presentation at the
Ninth Air University Airpower Symposium
"The Role of Airpower in Low Intensity Conflict"
Air War College
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The views and conclusions expressed in this paper are those of the author and do not reflect the official policy or position of the Joint Special Operations Agency, the Department of Defense, or the United States Government.

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I. INTRODUCTION. There is no coherent body of military doctrine for Low Intensity Conflict. High Intensity Conflict poses a clear and present threat to our national survival, and coherent doctrine has been developed. Mid-intensity warfare represents a clear and present danger to our national interests, and coherent doctrine has been developed. Low Intensity Conflict represents a globally carcinogenic threat to our national interests and survival, and coherent doctrine is conspicuous by its absence.

This paper assumes to deal with this anomaly. Using the word "assumes" is not just being coy - Low Intensity Conflict (LIC) is an exceedingly difficult topic to master; witness the widespread and numerous attempts to just define the term. These definitional efforts portray LIC as encompassing altercations ranging from a United Nations debate to tactical nuclear war, and the forces involved ranging from a military training team to a nuclear carrier battle group or multi-divisional light infantry force.

II. LIC; WHAT IT IS? Following are just four examples of attempts at defining LIC, which appear to be closest to the mark.

LTC Osef, Georgetown University Center for Strategic Studies - A conflict in which the duration, pace, size, and violence of combat operations are significantly circumscribed by the policies of civil authorities, by the limited purposes or

capabilities of hostile military forces, or by inhibiting features of terrain and weather. LIC is a mixed civil/military struggle in which competing forces seek to seize or to maintain political power, or to influence policy, by a wide array of tools and tactics. Often conceived by participants as a protracted struggle, it may be characterized by only spasmodic military or paramilitary engagements or attacks. When they occur, combat operations are the most visible manifestation of a larger conflict that has roots in the historic, military, political, social, cultural, economic, and psychological fabric of the societies involved. In its military aspects LIC is characterized by limitations on: the destructiveness of weapons used, the size of operational units (maneuver battalion or smaller), the frequency of combat, the number of casualties resulting from individual engagements (compared to total forces available), and the objectives and tactics of military operations. Frequently, important elements of hostile military or paramilitary forces or cells are not clearly differentiated from civilian populations, and they gain or extort security and sustenance from that ambiguity. Their activities emphasize surprise, security, simplicity, and economy of force, and they are not constrained or deterred by their own numerical, logistical, or technical inferiority, by adverse weather conditions or terrain features, or by the prospect of military setbacks.

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Air University Cadre Workshop on LIC - Non-nuclear situations ranging from terrorism, crises, and small wars to revolutions and counterrevolutions that require tailored limited responses short of national mobilization and often in conjunction with host regimes and third countries. These responses are likely to be military or paramilitary for short situations, but of mixed political-economic-military-and other character for revolutionary and protracted conflicts.

FM 100-20 (Draft) - The limited use of force for political purposes by nations or organizations in order to coerce, control, or defend a population, to control or defend a territory, or to establish or defend rights. It includes military operations by or against irregular forces, peacekeeping operations, terrorism, counterterrorism, and rescues and military assistance under conditions of armed conflict. This form of conflict does not include protracted engagement of opposing regular forces.

Joint Special Operations Agency (JSOA) Proposal - Conflicts ranging from normal diplomacy through terrorism and local crises to insurgencies and revolutions. Responses are usually in conjunction with host nations in third world countries and require tailored social, economic, political, psychological and/or limited military actions. (This definition has not yet been rendered totally inoffensive by complete staffing.)

The foregoing definitions imply there are definite boundaries to LIC, but they are very difficult to discern. Also, many are not happy with the name, "Low Intensity Conflict". Two little boys grappling in the school yard constitutes low intensity conflict, at least from an adult perspective. Also, the "conflict" in Low Intensity Conflict is an effete euphemism for "war". Gen Nutting's (USCINCRED) preferred term "IRREGULAR WARFARE" is much more definitive, but such harsh pragmatism is presently not in vogue. But by whatever inoffensive name it is called, it is nevertheless war, even though invariably undeclared. One might say it is the old Cold War become lukewarm.

III. COMPETING IDEOLOGIES; WHAT ITS ALL ABOUT. It is a well known fact that the ideology of the Soviet Union is Communism. The antithesis of communism is capitalism. The Communist ideology is quite explicit in the assertion that even one "exploitive" capitalist on the planet cannot be tolerated. The cancer of capitalism must be completely resected from society. As the bulwark of capitalism, the United States, by definition of ideology, represents the archenemy of the Soviet Union and Communists everywhere. Therefore, it is the holy duty of good Communists to eliminate the United States as a capitalist society. That is a difficult task. The use of military force in the classic sense is presently not a viable alternative for the Soviets. The nuclear option is at stalemate. Fears of escalation essentially negate the conventional warfare option.

A tertiary option was discovered, and strategy was developed and implemented. This third option pursues the overall objective by every means imaginable short of nuclear or conventional war. In his famous address at the UN, Mr. Khrushchev reiterated the fundamental Soviet objectives. (His statements make "Peaceful coexistence" and "Detente" pipe dreams.) Aggressive diplomatic/political initiatives, economic warfare, psychological warfare, surrogate warfare, insurgency, terrorism, disinformation, etc., are tactics employed in this low intensity global war. Disorder and disenchantment, naturally occurring in the Third World, are assiduously exploited by the Soviets, and have been for the last several years.

IV. THE RUDDERLESS STATE. The United States has no coherent strategy for this sort of low intensity war. That is not too surprising since the United States has few clearly stated national objectives, and has not since President Kennedy committed the nation to joining the Space Age. President Kennedy did not mouth ambiguities like: "The United States seeks to establish a presence in the arena of extra-planetary exploration by whatever means seem most expedient based upon exigencies intrinsic to the moment." Instead, he enunciated a national objective in clear, unequivocal terms; he committed the United States to putting man on the moon before the decade of the 1960's was over. Period! This stirred the nation to truly awesome achievements. Without unequivocally stated national objectives,

national policy flounders and flails, and strategy reverts. With no coherent policy or strategy, the United States will remain the perennial ambush victim, relegated to a defensive role, and capable of only blind, frustrated reaction. This Low Intensity Conflict is complex and confusing for military planners, without adding the albatross of ambiguous guidance from the national leadership. Unless the wisdom of the ages has been recently debunked, simplicity is a principle held sacred by those who would wear the laurels.

Granted, statement of all national objectives in such simplistic and straight-forward terms as outlined above may not be possible nor desired. However, those things that are crucial to national security should be addressed pragmatically and bluntly. And, as Col Summers stresses in his book, "On Strategy"[13*], we should not "take counsel of our fears" in the development of strategy. His advice is equally valid for LIC as it is for the rest of the warfare spectrum. The desires and policies of other nations are of secondary importance when U.S. national objectives are involved. The standard argument is, "The World situation is too complex now for simply stated objectives." Too complex for whom? The timorous live in a much more complex world than the brave. The world situation in 1944 would meet anyone's definition of complex, (check any library for the sheer volume of books with

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* Footnote numbers are keyed to the bibliography.

events of that era as subject matter), but the United States had a simple, clearly stated national objective - unconditional surrender of our enemies. Right, wrong or indifferent, we attained that objective, and it was attained because everyone understood.

V. THE LIC SANDWICH. There is an excellent argument to be made that LIC permeates all spectrums of warfare but has a progressively minor and peripheral role as it goes from mid to high intensity. This view assumes that those forces normally employed in LIC (Special Operations forces) continue to be employed in LIC roles regardless of the overall situation. Furthermore, the objectives of LIC remain of valid concern despite the intensity of concurrent or encompassing conflicts. Col Cox of the Joint Special Operations Agency has developed a concept he refers to as the LIC Sandwich. There are essentially two ways to view this concept: First, in the normal state of men and nations, we find LIC. Throw in a bit of catalytic action, some escalation and you get the meat - mid and high intensity conflict. Then, if even only one antagonist remains on each side, after termination of mid/high intensity war, the situation reverts to LIC. Therefore, LIC - MID/HIGH - LIC.

The other way of looking at the sandwich is a geographic view, centered on the main battle lines. The geographic area of the warring nation-states comprise the entire sandwich, with the

battle lines where mid/high intensity warfare rages representing the meat. LIC would then predominate behind the lines on both sides. Granted, in high intensity conflict, the LIC "bread" could get rather thin, or even become indistinguishably mingled. One of the prime objectives in LIC should be to avoid escalation, for obvious reasons. Introduction of large ground force units and high technology weapons systems; 1) Escalate the situation, 2) Commits the United States maybe more than is feasible or desired.

VI. CONVENTIONAL VIEWS. The U.S. Army has allegedly used LIC as partial justification for developing their new Light Infantry Divisions. The efficacy of the Light Infantry Divisions in a LIC role is of course yet a matter of conjecture. The potential is there if they are true light infantry and if their doctrine is sufficiently flexible to permit employment in units of less than divisional strength. Any conflict that requires application of military force in divisional or multi-divisional packages, and all the deployment and logistic train that entails, has outgrown the sobriquet, "Low Intensity". There is, and always has been, a requirement for a quick-reaction force (that can deploy without need of every transport ship and aircraft in the inventory), for mid-intensity type wars, in other words, for those situations where our LIC strategy fails, and we consciously elect to transition to mid-intensity war. The Army does however have forces superbly capable of conducting LIC - the U.S. Army Special

Forces, and the U.S. Army Rangers.

U.S. Air Force doctrine maintains that most USAF aircraft can support special operations, and by association, Low Intensity Conflict.[1] Indeed, there are several types of aircraft that can adapt to a Special Operations or LIC support role. But, great care must be taken to avoid number and technology escalation which will prove counterproductive. When all constraints are considered, there are very few USAF aircraft capable of supporting SOF "across the board". Strategic airlift is usually necessary for deployment, but those monster craft have restricted utility in an employment role. Aesthetically pleasing, modern fighters, though essential in MID and High Intensity war, are also virtually worthless in the LIC environment. Unfortunately, "hideously ugly" craft, such as the AC-130 or A-10, are eminently more suited for the surgical precision demanded of LIC strike craft. The only problems with the USAF core SOF aircraft (MC-130 and HH-53) is that there are too few of them, and they are very old.

In a paper prepared for the AU CADRE LIC Workshop, Maj Pratt, USMC, asserts that the U.S. Marine Corps is a past master at LIC.[12] This is true. In the first half of this century the Corps was frequently involved in LIC, especially in Latin America, and were relatively successful. Unfortunately, in the latter half of this century (with two or three exceptions), there

seems to be a reluctance to use USMC forces in a LIC role. When used, such as in Lebanon, National Policy has been so uncertain, and guidance so lacking that their effectiveness was severely degraded.

Though some people, such as Dr. Tom Etzold (Naval War College),[3] maintain that the U.S. Navy views LIC as anything short of direct United States - Soviet Union conflict, the fact remains that the Navy has considerable assets to support/conduct LIC. The Naval Special Warfare (NSW) forces are admirably suited to conduct LIC, and the Navy has a wide variety of assets to support either NSW or USMC forces in a LIC role.

VII. THE LIC MILITARY ENVIRONMENT. There is no overriding requirement for a conventional soldier to be area oriented or language proficient in his area of operations. He speaks firepower, which has no language barriers and is not overly concerned with social niceties. His mission is not to win friends, hearts and minds, but to impose his will by brute force. He is not a teacher but a doer. The talents of the doctrinaire conventional combat troop are wasted in a LIC environment - there are no appropriate targets for his firepower. Bombing a cabbage patch into submission with "smart" munitions is the height of folly. It is needlessly expensive, and escalatory.

"Bring up a child in the way that he should go, and when he is

old he will not depart from it." That old adage is equally true for adults as well as children. In our formative military years we all were intentionally and carefully imbued with a sense of mission. We learned by rote the mission of our respective services, the strategy and tactics used in the prosecution of that mission, and the doctrine which binds together the whole in consonance with the principles of war. (The JCS Pub 1 defines doctrine as: Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgement in application.)[6] These authoritative, comforting service doctrines and unambiguous statements of mission served as a security blanket. They lend strength and guidance when we are faced with an onerous task or frightening challenge. A soldier knows he must be able to fight the land battle; engage the enemy and destroy him; then hold the acreage. The sailor knows he must project power; seek out and destroy the enemy; control the seas. The Airman knows he must gain air superiority; seek out the enemy and destroy him in the air or on the ground. The Marines storm ashore, (amphibious assault), and secure a beach head. (Granted, there are several ancillary roles and missions of the Services, but they are relatively insignificant when one gets down to basics).

There is a thread of similarity running through this tapestry of Service missions. This is, "engage and destroy the enemy". In a

word, attrition. Our mother Services are primarily concerned with numbers - one pits divisions against divisions, battle group against battle group, and squadron against squadron. Risks are quantifiable. Relative power is quantifiable. The probability of success can rapidly be obtained from a simple pocket calculator. In high intensity and mid intensity warfare, the variables essentially cancel, and the basic equation remains; "x" number of divisions against "x" number of divisions, etc. This is clean, neat, comforting.

But, for those that descend at first into the murky depths of Low Intensity Conflict, these "security blankets" are soon seemingly torn to shreds. Though LIC is a different breed of war, and de-emphasizes attrition, the principles of war and basic service doctrines are still valid for combat operations. These must form the base tier of LIC doctrine, supporting those LIC - specific tiers now evolving. The editorial in the March - April 1984 issue of the Air University Review poses an interesting question: Is the Clausewitzian paradigm obsolete in this new war? (It would almost appear now that politics is the pursuit of war by other means.) Politics and war have become inextricably intermixed. This creates monumental problems for the Clausewitzian strategist, for obvious reasons. But, this Clausewitzian paradigm cannot be cast aside, for it sustains the conventional and strategic force strategies and doctrines which hold the Red Army at bay, and that is absolutely crucial.

Employment of Special Operations Forces, the backbone of the military portion of Low Intensity Conflict, is a joint endeavor and Service doctrines do not totally apply. Special Operations/LIC (SO/LIC) is concerned with maneuver, not attrition. There are no divisions/battle groups, etc. in SO/LIC, therefore, there are no meaningful quantities to plug into the neat, clean equation of power. There is no comprehensive paternal body of joint doctrine to tie the whole nebulous mess together. To make matters even worse, the stated mission of special operations sounds like it was written by the Great Equivocator:

> JCS Pub 1 defines Special Operations as, "operations conducted by specially trained, equipped, and organized DOD forces against strategic or tactical targets in pursuit of national military, political, economic, or psychological objectives. These operations may be conducted during periods of peace or hostilities. They may support conventional military operations, or they may be prosecuted independently when the use of conventional forces is either inappropriate or infeasible."[6]
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> JCS Pub 20, Vol I adds, " SO may include UW, counterterrorist operations, collective security/FID, PSYOP, direct action missions, and intelligence (strategic and tactical) reporting."[7]

As one can see, there is not one word about find/engage/destroy. Instead, we see references to "political, economic or psychological objectives", something we can recall from our formative military years as being the sole prerogative of our civilian authorities.

VIII. COMMAND AND CONTROL. The concept of employment for SO/LIC forces is, with few exceptions, a joint operation, with a joint command and control arrangement. This joint headquarters is usually subservient to a regional CINC, or a Joint Task Force Commander, and as such is on the same level as the major component headquarters. Historically, in crisis situations these existing mechanisms have been junked in favor of an ad hoc arrangement permitting micro-management by the NCA. The disaster in Iran illuminated the inadequacies of the ad hoc approach and several additional permanent headquarters were formed as a "fix". Additionally, the Joint Special Operations Agency was formed to provide interface at the national level. Protracted LIC operations, because of the political aspects, do indeed require more than curious attention from the NCA. The machinery for handling the vast majority of Low Intensity Conflict situations is already extant - the Country Team. This machinery should be re-energized and used.

IX. LOGISTIC SUPPORT? Because of the relatively small size of the special operations forces, and their joint nature, logistic

support for SOF is often a problem. SOF cannot be self-sustaining, and are therefore dependent upon their respective services for support. When one considers that the Services are primarily concerned with supporting armies, fleets, and air forces, it is not too surprising that the small special operations force elements usually do not command a high priority. This is true in peacetime as well as in war. The clandestine, low-visibility type of activity inherent in special operations often requires relatively sophisticated gear. This gear is expensive in any case, but made more so because of the low quantity buys. For a service spring-loaded to the attrition mode, the decision makers are reluctant to allocate funds for SOF gear, the utility of which appears negligible in the European scenario, when those same funds could purchase parts for a tank, plane, ship, etc. SOF personnel also require expensive, in both time and money, specialized training, such as in language and in the use of unique equipment.

X. <u>IN SEARCH OF DOCTRINE</u>. All the Services have developed unilateral doctrine, as directed, for their special operations forces. Additionally, the Army and Air Force are in the throes of developing doctrine for Low Intensity Conflict, which not surprisingly bear a marked resemblance to their Special Operations Doctrine.

As previously restated, Special Ops and LIC are essentially joint

or even combined operations. This makes it difficult to produce a coherent unilateral doctrine. But the largest problem of all is that SO/LIC is invariably situation-dependent. Strategy and tactics are different for every situation, so how is it possible to develop a doctrine that will cover every perceived eventuality? It is obvious, we do not want a doctrine that covers every perceived eventuality. We require a doctrine with built-in flexibility, a doctrine that demands inventive strategies and tactics. It must be geared toward attaining success, not equivocation, i.e., not driven by the politics of the moment. Prior to WWII, France bowed to the politics of the moment and developed a doctrine purely defensive in nature. The Maginot Line became their strategy. The moment passed, and the doctrine bought defeat. Doctrine and strategy must support national objectives - long term.

National policy may, or may not, support long term national objectives, but sound doctrine and strategy can help keep policy aligned with objectives. (This is of crucial importance in the United States where policy appears to fluctuate rather more than is necessary.) The military leadership is very much like a college football coach charged with winning the national championship. It soon becomes a hopeless task if the alumni are permitted to arbitrarily change type offense/defense, personnel, individual plays, and the basic rules of the game on a momentary whim. The coach must win the unconditional confidence of the

alumni by devising an over-all program so sound, lasting and successful that even the most rabid fan's attention is kept directed toward that ultimate trophy, and the propensity for whimsical intervention at any given moment is kept under control.

Strategy and doctrine cannot be personality-dependent, from the standpoint of either protagonist or antagonist, (another example of politics of the moment), but should instead reflect a careful evaluation of national traits, trends, and stated/implied objectives. Granted, personalities must be accommodated, but with the realization they are of transient concern. Dealing with personalities falls more within the realm of tactics than strategy.

Continuing the football analogy, the coach may even have to resort to trick plays not found in the normal playbook, and at times be very liberal, but discreet, interpreting the rules. Regardless of the ploys he uses, if he is successful, it is good for the university, the alumni become staunch supporters, and other positive things accrue. However, returning to harsh realities, the touch-stone of the U.S. Military establishment is not to be forgotten: The elected political sector is dominant and supreme over the military. Therefore we must recognize our own political matrix and gauge our capabilities and response posture to LIC according to the mood and temperament of the U.S. political environment. Any doctrinal statement from the U.S.

military community must necessarily pass the "test" of political viability. This is not meant to sound like a restatement of the familiar platitudes - we need only to look as far back as Oct 1984 and recall the public outcry over the UW manual which advocated acts of violence as "procedure" to achieve the goals and objectives of the U.S. supported guerillas. Without clearly stated objectives, violence may be viewed as violence for violence's sake.

XI. DOCTRINAL ISSUES.

A. Though the intensity of LIC is situation dependent, there are sufficient similarities in the various situations to permit enunciation of functional force requirements, and a tiered, modularized force approach is evolving. This aids in increasing the number of military alternatives as a situation escalates/de-escalates through the spectrum, and should also optimize training for the forces. This approach also promises to accelerate development of doctrine for proper employment of the U.S. Army Rangers in the LIC environment. A tiered, modularized force concept also greatly enhances planning for C^3, logistic and service support.

B. The anticipated transfer of proponency for rotary wing support for SOF raises another doctrinal issue that requires immediate attention. At present, the Air Force is the primary agent for providing aviation support for ground and maritime

SOF. The Air Force component headquarters of a Joint SOF is responsible for controlling and coordinating all SOF air employment. Once the transfer of rotary wing proponency is complete, the Army will be the prime provider of both air and ground SOF. Only the mission of providing fixed-wing support remains with the Air Force. Experience has proven the necessity for centralized control. Therefore, it appears only logical that the Army, as major air component, now assumes responsibility for providing the controlling headquarters for SOF air support. The Air Force SOF Master Plan indicates a preference for retaining control of USAF SOF support aircraft at the theater air component level, and providing that support on a mission basis. This naturally strips the Joint SOF commander of control of much of his air component. Such a move is viewed with some trepidation since it is not at all assured that mission-basis support would be adequate. Also the fact that commanders and staffs at the theater component force level are conventionally and attrition oriented is cause for concern.

C. On the Army side of the house, it is not at all certain just how rotary wing support will be provided the Joint SOF commander. If rotary wing aircraft are retained by the theater Army component commander as Corps or divisional assets, and doled out to SOF on a mission basis, then the principle of centralized control is violated. This is an

identical problem as discussed above concerning the AF Master Plan proposals for fixed wing assets. The Joint SOF Commander must have control of his assets if he hopes to prosecute his mission successfully.

D. LIC is by nature a protracted conflict - as stated numerous times by a master, Mao Tse Tung. Heavily influenced by the mass media, the U.S. citizenry display a penchant for pursuing fads and instant gratification. Therefore, a crucial problem is obvious: It is impossible to maintain popular U.S. support for a LIC operation. (The United States has never fought a LIC-type war for any appreciable length of time. We quickly lose patience and escalate to Mid-intensity.) Popular support is not absolutely essential, but there must be at least benign indifference, especially on the part of the mass media. Otherwise, Congress will feel compelled to end U.S. involvement, regardless of the stakes. If LIC can be kept controlled at the lower levels of violence, with very little carnage for the TV cameras, then possibly public support, and as a minimum, benign indifference will accrue. Something so pedestrian as Internal Defense and Development, especially when it is relatively successful, will never make the 6 o'clock news. As an example, very few people in the United States have any idea of the magnitude of U.S. assistance to Costa Rica. But, they are informed frequently and stridently by the mass media of the to-the-cent value of assistance to

El Salvador, or the Nicaraguan Rebels. The foregoing brings us to the point; it is time to stop giving lip service to Psychological Operations (PSYOP) in the development of LIC strategies and doctrine, and actually plan for and use it. Though it is an abstract rather than a steel weapon, it can be very effective (re: Allied and Axis propaganda in WWII). But like other weapons, it has multiple cutting edges and must be employed with care. As the operation in Grenada has proven, target audiences should not be limited to just the enemy. The Public Affairs Office must be an integral player in the PSYOP effort. (The JSOA is assisting in the preparation of a Secretary of Defense directed DOD Master Plan for PSYOP which should facilitate enhancement of PSYOP efforts and the development of joint doctrine. Also, this year's proposed revision of the Defense Guidance reflects a much more vigorous OSD approach to addressing the PSYOP issue.)

E. By definition, doctrine is "authoritative", which would imply that it is directive in nature. Services can develop doctrine which is indeed authoritative, because the Service Chiefs and their staffs do have authority, based upon legislation and control of purse strings. Joint Doctrine seldom has the true ring of authority because it is at best a compromise, and compromises tend toward the bland. JSOA, being chartered to, among other things, develop joint SOF doctrine, has the same shortcomings as its mentor, the OJCS,

and cannot "develop" authoritative doctrine on its own. This probably is as it should be. The body of LIC doctrine developed must be an amalgam of Service doctrines, so effectively coordinated and integrated, that the synergistic effect elicits unreserved compliance. This coordination and integration is the JSOA task.

XII. SUMMARY. Over the last four decades, we have seen conflict after conflict at the lower end of the warfare spectrum; a subtle clue that a trend may be developing, and that new strategies might be in order. Yet, we continue to hold fast to those strategies and doctrines we learned so painfully on the battlefields of WWII. Unfortunately, those lessons have little applicability in LIC, just as strategies, tactics and doctrine evolved in the WWI trenches were woefully inadequate for WWII.

The increase in media coverage of terrorism attests to the public concern over the danger facing the nation. Having been on the receiving end of numerous acts of violence, we don't have many success stories to hold up as evidence that the tide is turning. Before we can stem the tide of violence and reestablish the desired U.S. presence in the third world, which is the hot-bed of LIC, we must develop a preemptive strategy. We are told of the difficulties of conducting viable operations in LIC as if the word difficulty is a cover-up term for impossibility. This mind set must be broken. There are difficulties without question,

just as there are difficulties involved in mid intensity and high intensity conflict. We need to stop wringing our hands, and set about the military business of founding the doctrinal underpinnings for U.S. military operations in LIC.

If the United States is to join this LIC battle with any hope of success, the national leadership must awaken to the problem, establish and state unequivocally the national objectives and formulate and pursue concomitant policies. Then, in concert with military leadership, sound, coherent strategies can be devised for prosecuting this "new" war, and valid doctrine will evolve. In the interim, JSOA, in consonance with the Services, the regional CINCs, and other governmental agencies and departments, must formulate and articulate a body of doctrine based upon obvious and implied national objectives and strategies.

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OF PLANES AND BRAINS: AN ORGANIC APPROACH TO BASIC AEROSPACE DOCTRINE AND LOW INTENSITY WARFARE

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"Strategy is the craft of the warrior. Commanders must enact the craft, and troopers should know this Way. There is no warrior in the world today who really understands the Way of strategy."

The Book of Five Rings, 1645 [1]

With these words the great Japanese samuri, Miyamoto Musahi, admonishes military professionals and national policy makers across the ages. This challenge, to understand the Way of strategy, is just as valid today as it was when it was first offered over three hundred years ago. In a world dominated by intricate debates on the implications of interdependent economic systems, thermonuclear and chemical balance of terror, and ownership/usership rights to the world's dwindling supply of natural resources and the pathways to and from their markets; it is not difficult to become confused and lose the Way. Simplicity has always been one of the most highly sought factors in successful plans, yet in our complex world even the simplest of plans can quickly become quite involved. Despite their best efforts to the contrary, national defenders increasingly find themselves charged with defusing conflicts around the globe for which there appears to be no adequate precedent. Nonetheless, the successful resolution of these conflicts may be the essential key to future peace in a world dynamic system which is so difficult to understand but in which the results of failure can be so catastrophic. It is within this context that policy makers and planners must confront the problems imposed by limited conflict.

The problems begin, unfortunately, with the very definition of limited conflict, a process which breeds considerable confusion and almost as many operating definitions as there are writers willing to offer them. In its basic doctrine manual, the United States Air Force elects not to offer a definition at all, preferring instead to define the spectrum of conflict as originating with low intensity conflict and ranging to strategic warfare for national survival, but without specifically identifying demarcation nodes.[2] Other authors are not much more successful in deriving their own definitions. For example, in his work, Limited War Revisited, John Hopkins University School of Advanced International Studies dean, Robert E. Osgood, states, "All military strategies reflect the national values and foreign policies they are supposed to protect. The history of the US strategy of limited war is central to the history of US foreign policy since the end of World War II."[3] Regardless, he spends the remainder of the introductory chapter of his book providing what is at best a cloudy definition of limited war, as well as the problems associated with formulating and executing strategies evolving from a need for it as a counterweight to full-scale nuclear chaos.

Institute of Defense Analysis (IDA) Vice President, Sy Deitchman, fares no better in his search for an exact definition, electing instead to take an approach similar to the Air Force. He defines military actions occuring since World War II in one of three catagories:

> "1. Conventional War--organized, regular forces were involved on both sides;

2. Unconventional War--organized, regular forces were on one side and guerillas or paramilitary forces on the other side; and

3. Deterred War--war in an area looked imminent; at least one major party moved forces into a place to attack or intervene; but the war did not take place."[4]

He goes on to state that each of the conflicts since World War II falls into the category of limited war, but he also states that limitation refers only to "our view or to that of other major powers."[5] For people struggling to gain or retain independence and national survival, these same conflicts were certainly not perceived as limited. This awareness, then, leads to further refining of the means and ends which constrain a conflict with something less than national survival at stake. At the same time, however, we must also consider the perspective of the various parties in determining the relative character of the war. Failure to do so will surely result in inappropriate actions/reactions as the conflict chronology unfolds.

This paper is an attempt to frame military operations within a perspective of the world which helps understand the role of airpower in limited intensity conflicts. It focuses on the employment of airpower; however, the underlying conclusions and generalizations should hold equally well for other response systems. It is also important to note at this point that arguments contained herein accept the Clausewitzian refrain that war is merely politics by more violent means. From this vantage limited war is not defined strictly within the context of the battlefield environment. Centuries ago, Chinese strategist/philosopher Sun Tzu said, "To subdue the enemy without fighting is the acme of skill."[6] Today, this same concept has at least two significant

implications. First, it stresses the fact that much of the foundation for success or failure in war is laid outside of the traditional combat arena. Second, it reinforces the role of deterrence as a primary level of warfare, either before fighting begins or embedded within "shooting wars" as a limiting factor. Both of these concepts will be interwined throughout this paper as crucial facets of limited war.

With these pieces in place, we are left with an operating definition of limited conflicts which will serve throughout the remainder of this paper. First, limited war is a war which is by definition limited. That is, it is a war which employs something less than the total capacity of a nation to wage war (means) to achieve objectives somewhat short of national survival (ends). Limited wars may be conventional, unconventional, or deterred. They do not necessarily involve combat, and, even when they do, the actual fighting may merely be the tip of an iceberg composed predominantly of political manuvering. Perhaps most importantly, limited war is a perception in the eye of the beholder. What is a limited conflict to one party may be regarded as a total, all-out struggle to another. Appropriate strategies for coping with limited conflicts must therefore span the spectrum from subcombat-threshold diplomacy to full-scale, but constrained, conventional warfare. They must be prepared to cope with such diverse situations as natural resource "wars" and political terrorism to large scale parries, feints, and demonstrations aimed at limiting the scope of operations in a total war. Further, these strategies must develop around the premise they are relative and that an adversary may not respond in kind, perceiving the conflict as either more or less vital to his national security and reacting accordingly. In this environment,

strategies will be successful only if they fully consider the means and ends available to all parties when determining appropriate response options. It is only within this context that a discussion of the role of airpower in low intensity conflict is meaningful.

The challenge, of course, is not so much in determining what limited war is or is not, as it is in defining the nature of the conflict environment and determining how to develop srtategies accordingly. The remainder of this paper addresses three areas in depicting this conceptual environment. First, it examines the general nature of parties to limited conflict to determine how varied adversaries may respond to conflict situations. In this attempt a system-oriented model, drawing on the teachings of classical political philosophers, is used to demomstrate an analogy between state behavior and that of biological organisms. The ultimate product of this process is a metaphoric model which is useful in analyzing how states, as well as quasi-governmental groups, may respond to conflict situations. Second, the paper will analyze some traditional, as well as some not so traditional, military power concepts in an attempt to forge a planning sieve which accomodates the previously developed organic/state analogy. This phase examines such concepts as the principles of war; command, control, communications, and intelligence; and logistical support roles. Finally, the paper builds upon the resulting framework to project military, specifically airpower, roles within the larger limited war context. Throughout it examines previous limited war examples, particularly the American experience in Southeast Asia, for roots of success and failure to test the paper's hypotheses. Based upon this analysis, the paper concludes with a brief glimpse at the future and potential American involvement in low intensity warfare.

Along the way, the temptation to perceive models as factual representations will be ever present. This can quickly lead to the confusion and misinterpretation which communication analyst William Haney ascribes to improper focus as we shift from map to territory and back again.[7] The map defined herein relies on analogy and representation much the same as any map. It can be neither excessively detailed, so as to clutter the course line, nor too scantily defined, so as to present insufficient milestones for the journey. In this way it is closer to an impressionist painting than a scientific equation. In either case the information necessary to make firm predictions for the future of the world is obscure and likely to remain so. Man has been least successful in analyzing his own motives and predicting their results. For the time, it is safe to assume s/he will continue in the same vein. It is in this context that this map is offered in an attempt to examine the role of airpower in limited conflicts.

In order to examine limited war and the role airpower may play in such a confrontation, it is first helpful to examine the general nature of conflict and the roles played by conflicting parties. In discussing conflict within and between organizations, human relations consultants Roy Pneuman and Margaret Breuhl state, "Conflict is inevitable. It exists within each of us. It is present in the dealings of any two persons whose interests or relationships are interdependent. It is inherent in the life of every group and every organization, formal or informal. Yet there persists all around us--in us, our institutions, and our society--a pervasive fear of conflict. This widespread fear engenders emotional and pseudorational reactions, which culminate in a

collective strategy calling for denial, control, or, if possible, elimination."[8] An interpretation of this point of view accepts that disagreements are unavoidable between nations; however, it does not mean that these disputes must necessarily erupt into warfare. In fact it offers hope of avoiding catastrophic and prolonged combat through realization of the assumption that conflict is natural and should be accepted as part of normal life. A similar picture is painted by philosopher Herbert Marcuse in his essay "Repressive Tolerance." In it he states, "The elimination of violence and the reduction of suppression to the extent required for protection of man and animals from cruelty are preconditions for the creation of a humane society. Such a society does not exist; progress toward it is perhaps more than before arrested by violence and suppression on a global scale."[9] Reading these two statements together, one comes to the conclusion that conflict appears to be an inevitable part of human nature and resolution of conflict a primary vocation. This vocation has as its ultimate goal the attainment of a world of greatly reduced, if not eliminated, violence in settling conflicts. This of course is also the primary objective of military professionals.

For centuries, collective man has searched for ways to resolve conflicts which he can both understand and replicate and which will insure the perpetuation of his own value system. In this pursuit man's organizations have incorporated behavior patterns which have ample precedents in the animal world. Anthropolgist Robert Ardrey describes some of the most fundmental/instinctive responses as: the drive to acquire property, social groupings based upon the defense of sharing territory, a drive for individual dominance within such societies, contests for superior territory or status, hostility toward territorial

neighbors, and a dual code of behavior which accepts those within a group and reject those outside the territorial bond. Ardrey, however, ascribes some uniquely hominid characteristics to the list including a predatory nature and dependence on weapons. It is interesting to note, however, that he describes the use of weapons in defense of territory by hominids which preceded homo sapiens, or modern man.[10] Similar depictions of the prehistoric origins of human conflict are presented by such diverse sources as physicist Carl Sagan[11] and novelist/scientist Arthur C. Clarke.[12] Common to all of these depictions, as well as a myriad of other literary examples ranging from eras before recorded history to speculation about the future, is the assumption that in societies built by man conflict is accepted to be as much a part of human existence as procreation.

General acceptance of conflict as a fundamental part of human nature leads to a further search for a more exact resolution of the appropriate role that conflict plays in the relationships between the states which embody the aspirations of groups of men. In this regard it is helpful to conceive of the state as a collective organism in its own right. In this capacity, it functions much like the colony of distinct creatures who combine their talents symbiotically to become a Portugese man-of-war. Such an organic concept is certainly not new to political thought. Historians Keith Nelson and Spencer Olin, Jr., describe a whole succession of political theorists who regarded states as organisms, most notably Count Arthur de Gobineau and Houston Stewart Chamberlain. According to Nelson and Olin, these and other theorists derived their fundamental arguments in the nineteenth century by applying Darwin's newly postulated theories of evolution. This gave

rise to a generation of social darwinists who described the confrontations between nations as a succession of survival-of-the-fittest type conflicts. Further applying Darwin, these theorists added a moralizing dimension lacking in the original evolutionary arguments. This perspective basically held that, since the fittest survived, it was legitimate for stronger states to exploit weaker ones. In this way a wide array of adventures from racial exploitation to empire building could be rationalized. These ideas continued to develop throughout the nineteenth century and into the twentieth, finding advocates with such noteable writer/thinkers as American naval strategist Alfred Thayer Mahan and psychiatrist Sigmund Freud. Support eroded rapidly, however, as the survival of the fittest moral arguments were carried to their logical extremes in the racial supremacy policies and the resulting widespread genocide which were embodied in the German Nazi movement. Post World War II societies were quick to repudiate the logic of the radical social Darwinists that the struggle for supremacy among states and the exploitive policies that they spawned were inevitable. Instead the post-war world was one characterized by dissolving empires and newly developing economic interdependence.[13]

Despite renewed optimism, though, strife did not leave the face of the earth, and conflicts among states regularly turn into shooting wars. In fact, Deitchman lists over 80 conflicts within the last 40 years which fit his earlier offered definition of limited wars, many involving superpowers.[14] This does not, however, mean that an attempt to draw an analogy between state behavior and that of organisms does not have merit as a tool for analyzing relations between states. The error of the social darwinists, and potentially a new iteration of social

biologists, is in that assumption of moralizing arguments to support and justify their views. If states only did those things in the international arena which were perceived by other states as just, there would likely be no conflicts resulting in wars. As we can daily see, however, different states have different views about what constitutes just or unjust actions, and conflicts between states do occur for myriad reasons.

If, however, we assume that states generally behave in ways similar to those of the people from which they are composed, we can derive an analogy of states as discrete organisms. This, in turn, provides a window into the potential motivators and response paths which define the ways states interact. As mentioned earlier, such a comparasion is not offered to represent immutable logic but only as an analogy.

To initiate the analogy, consider for a moment what generally differentiates organisms from non-organisms. First, the dictionary defines an organism as, "An entity having an existence independent of or more fundamental than its elements and having distinct members or parts whose relations and powers or properties are determined by their function in the whole." It goes on to further limit this definition by saying an organism is, "constituted to carry on the activities of life by means of parts or organs more or less separate in function but mutually dependent."[15] Further reference to virtually any basic biology text will yield a list of critical characteristics to round out what differentiates a living organism from inorganic matter. These include: cellular organizations; respiration, or release of energy; adaptation to environment; and reproduction.[16]

In one way or the other all states demonstrate these same

characteristics as they function as interlocking systems. Society's analysts and philosophers since before recorded history have attempted explanations of why men came together to form states. Beginning with Plato's characterization of the origins of the state in the Republic as the logical outgrowth of man's needs and his inability to meet them himself[17] to the current writings of global dynamics analysts, a common thread emerges. States represent the symbiotic collection of individuals with shared needs and wants. In pursuit of these needs states develop much as organisms; growing, reproducing, and adapting to their environment. In the process of satisfying their needs states conform reasonably well to another organic model, the hierarchy of needs formulated by Abraham Maslow and expounded upon by a host of other social psychologists.

Communications analyst Haney provides a succinct analysis of the role of the hierarchy of needs in understanding group relationships. Through an evolutionary development of hierarchy benchmarks, Haney presents Maslow's model as the one needs model which is predictive in nature. For those unfamiliar with the model, Maslow divides human needs into five ascending tiers. The first level is the physiological, or survival, needs. These include food, shelter and freedom from injury. The next tier is safety and security needs, or the need to feel free from fear of danger or deprivation. The next two tiers relate to the ways people interact within society. These are socializing and ego gratification through the esteem of others. Finally, Maslow defines the highest order need as self-actualizing, or realizing one's fullest potential, thereby generating esteem from within.[18]

Haney summarizes Maslow's basic propositions as follows:

> "1. The lowest unsatisfied need must be sufficiently appeased before the needs above them normally become operative, i.e., are able to motivate the individual.
>
> 2. To the extent that needs are satisfied they will become inoperative, i.e., they cease to motivate the individual for a satisfied need is no longer a motivator of behavior."[19]

Haney goes on to qualify these propositions by stating that the sequence of need occurence and need satisfaction are not neccessarily the same. The boundry layers between needs are permeable, and we shift readily back and forth between needs before we are either satisfied or perceived deficient. At the same time, needs can come into conflict as we try to accomodate goals on different levels, usually opting for the needs closest to the bottom of the hierarchy, the primary level. Finally, Haney describes two reasons why this model cannot be applied literally in every situation as a predictive device. He attributes these modifying factors to varying appetitites, particularly influenced by the dependency urgings of the needor, and the manifestation of self-discipline, or the willing suppression of more primary needs for temporary gratification of higher-level needs.[20]

The general premises of this discussion, according to Haney, can be applied to understanding group, as well as, individual behavior. Remembering Plato's comments in the Republic, it would also seem that a similar interpretation can be applied to the factors motivating states in both internal and external policies. A quick survey of other widely accepted writers on the origins of states indicates similar attitudes. Machiavelli, for instance, states in The Prince, "A prince ought to have

no other aim or thought, nor select anything else for his study, than war and its rules and discipline,..., it is seen that when princes have thought more of ease than of arms they have lost their states."[21] This comment at the heart of Machiavelli's conception of the role of the state, embodied in the role of the prince, strongly parallels Maslow's description of the two primary levels of the hierarchy of needs, present and future security. Through superior knowlege of the art of war, the prince assures the survival of his own state, thereby acquiring esteem from other states. Machiavelli further validates this interpretation through both the assumption that in statecraft ends justify means and by installing a significant degree of unpredictability, through the role of fortune, in modifying the plans of princes.

Machiavelli is not alone, however, in his assumption of the role of security as the foundation of the rationale of statehood. Thomas Hobbes presents an even stronger discussion of the security needs satisfaction role of the state in his landmark work, Leviathan. Hobbes assigns the maintenance of peace and order to states as their primary reason to exist. For Hobbes, man without government is an anarchic being, a malignant conglomerate of misdirected cells constantly imposing fear and anxiety upon others. Hobbes calls this primitive state of nature war. He, then, describes a tradeoff of needs which occurs at the heart of each person's submission to his government in exchange for personal security. Since he feels the first law of nature is to seek peace, he states, "A man (must) be willing, when others are so too, a far forth as for peace and defense of himself he shall think it necessary, to lay down this right to all things; and be contented with so much liberty against other men as he would allow other men against himself."[22] In

this situation, men give up a portion of their individual liberty in return for security from others, the primary function of the state. This convenant is expressed through a governing body which speaks for the common good, making and enforcing decisions to insure mutual security.[23]

Later political philosophers continued to refine concepts similar to those embodied in the foundation teachings of Machiavalli and Hobbes. Before discussing these newer ideas, however, it is important to put both in proper context. Both Hobbes and Machiavelli were defining the operating principles of statecraft at a time when the very nature of the state was in metamorphosis. Prior to this time the state had almost exclusively resided in the hands of individual sovereigns, representing a line of rulers who had gained and generally maintained their position by force. This force was either directly manifested, or it was exerted through fear, either of physical harm and starvation or of eternal damnation. Throughout this era of sovereign rule, the ideological foundations for nation-states had been progressively laid by such writer/thinkers as Plato, Aristotle, and Acquinas; however, it was Hobbes and Machivelli who ventured forth to translate these doctrines into political blueprints for the future. During the days of the sovereign, most persons, including the sovereign were bound to satisfying their primary physiological and security needs. As Europe entered the sixteenth century, though, new forces were coalescing on the horizon. A new middle class of artisans and merchants had arisen with expectations of satisfying needs beyond the primary levels, fueled by the birth of the guild system and its associated universities. Rapidly expanding markets in recently opened, previously unknown areas of the world combined with

the dawning of a new scientific and industrial age and provided fuel to an emerging restive nature. Societies all over Europe were transitioning to an era wherein social/ego needs were beginning to predominate. This transition carried some interesting implications. As prosperity brought a more generalized freedom from hunger and fear of satisfying short-term physical security, shelter, and food needs; societies began to challenge the suppression of individual freedoms their forefathers had suffered through abdicating them to the sovereign in return for security. This became an era of emerging scientific, rational thought, and these two men were at the vanguard of defining political science, as opposed to political philosophy. It was upon their ideas that a whole new set of assumptions about the role of states in world order evolved.

A number of other writers added to the body of knowledge which further shaped the world's perceptions. Although it is beyond our scope here to explore these in depth, a brief examination of the critical points of a few is helpful in understanding the ways the state acts as an intelligent organism, as well as establishing the current state of the body of knowledge. A crucial element in the growth of the state was the gradual adoption of accepted rules for behavior. Montesquieu built upon the foundations of Plato, Aristotle, Aquinas, and Grotius in providing a framework for adapting law to individual conditions and circumstances. In this attempt, he assigns considerable importance to a sense of obligation to one's country and its laws. In the role of midwife to national chauvinism, he states, "The love of country is conducive to a purity of morals... The less we are able to satisfy our private passions, the more we abandon ourselves to those of a general

nature."[24] Through a strong rationalization of democracy, Montesquieu provides a comprehensive and adaptable roadmap to a societal structure founded upon satisfaction of social needs. At the same time he lays the groundwork for a democratic society which will facilitate the attainment of ego, or self-esteem, needs.

A similar progression can be seen in the writings of Rousseau. Rousseau concludes that right is not necessarily on the side of strength, since privilige derived from strength quickly vaporizes with the loss of that strength.[25] He instead substitutes the social contract as a source of legitimacy, thereby invoking Hobbes' discussion of trading personal liberty for security. At this point, however, Rousseau describes a process well beyond the bonds of mere security need satisfaction by adding a moral dimension. Freedom in Rousseau's world is the freedom of the corporate body of the state, as defined by his use of the general will.[26] This general will exists as the synthesis of the wills of individual members of the state. In this regard, Rousseau's discussion of the state very closely parallels a description of an organic identity for the state. This separate indentity is composed of the synthesis of indentites of its members and its needs, represented by the collective needs of its members, and transcends the individual needs of any member. At this point the basic model is set for at least the lower four levels of the hierarchy of needs.

At the dawning of the modern era, the task fell to such thinkers as Kant and Hegel to give introspection and self-actualization to the concept of the living state through the assumption of a sense of state conscience. Kant, also, builds upon the teachings of Acquinas in his analysis of the role of order in political affairs, and, in the process,

proscribes accountability to the affairs of state. By introducing the concept of oughtness, Kant expands upon the teachings of his ideological predecessors. He says, "The natural state of nations as well as of individual men is a state which it is a duty to pass out of, in order to enter into a legal state."[27] He expands further in his general condemnation of war. This is reflected in the comment that, "The universal and lasting establishment of peace constitutes nor merely a part, but the whole final purpose and end of the science of right as viewed within the limits of reason."[28] This view, that states are morally obligated to seek peace, demonstrates considerable maturation of the organic state over earlier concepts. From such a vantage, states are no longer obligated to fight as an only alternative for preserving their security. They are now more motivated by a sense of union and have acquired the luxury of negotiating, instead of fighting, away their disputes. As demonstrated earlier, most people would regard conflict as inevitable. Occassionally, this conflict leads to war. If, however, this ideological progression holds true, war should increasingly appear less an option in the international arena. This assumption of moral responsibilities for the state logically leads to a discussion of Hegel's ideas.

Although a complete analysis of Hegelian concepts is not germaine to the issues at hand, certain ideas merit discussion. First, Hegel advanced the idea that the state functions as an organism, to which he assigns divinity. In Hegel one finds the complete subjugation of individual rights to the rights of the state.[29] This state, however, is not the totalitarian state so readily attributed to Hegelian tradition. It is, instead, one based upon rule of the law, order, and justice. Hegel also presents a logical model of change, the dialectic. To Hegel,

the basis of the state is the constant synthesizing of ideas resulting from the clash of thesis and antithesis. In this regard, Hegel sees the advance of knowledge in much the same way as that defined by current psychological doctrine as cognitive dissonance. In Hegel's world of idealism one finds an early example of an organic state seeking self-actualization. Although Hegelian teachings are not totally congruent with democratic ideals as presently practiced, they do offer valuable insight into the formation of determinant values for state interaction.

These thinkers, along with many others, have shaped the way we look at the security role of governments and, consequently, acceptable methods of conflict resolution. At the same time, together they demonstrate the progressive development of collective intellectual man as a symbiotic, organic state. Beginning with the earliest emergence of homo sapiens until the present day, humans have come together to form bonds which eventually developed into states. The roles these states have played; both toward their members and as members, themselves, of the community of states; have varied; however, they have generally matured in a pattern synonomous to an organic entity. They have come to life, consumed energy, reproduced, and eventually died. All the while, they have fulfilled functions for their constituents which mirror the heirarchy of needs. This systemic, organic functioning of the state forms a basis for analyzing past, present, and future encounters between states and state-like entities.

Before proceeding further it is necessary to first review some traditional concepts associated with the application of military power from the perspective of the organic state. These include the political

basis for the application of power, the principles of war, and general organizational/command and control concepts. To assist in better understanding this base, historical examples, specifically American involvement in Vietnam, are examined, and, in turn, the examples validate the organic approach as an analysis tool. Finally, we will take a brief look into the future and demonstrate how the organic approach, operating through the previously addressed military power concepts, can be used to prepare for future conflict resolution. Three central concepts must be kept in mind throughout. First, although conflict, as discussed here, is constrained to the lower end of the intensity spectrum and examples used illustrate the role of airpower; the underlying organic model is equally applicable to broader situations. Second, conflict resolution between states begins with deterrence. The most effective conflict resolution remains at that level while, none-the-less, preserving state objectives. Finally, no model can be totally accurate in summarizing past events and forecasting those in the future. The key to a successful model is to be right more often than not. The organic model presented here is such a model. Like all models, however, it does require accurate input information, much of which must be assumed. At a minimum, it requires an accurate assessment of ones own position and perspectives.

The ways a state approaches conflict resolution are embodied in its own application of traditional power concepts. Continuing the organic state analogy, these include: a genetic heritage which is passed down from national forebearers and forms a basis for power, a doctrine defining a state's objectives and methodology within the body of states, and a toolbox of instruments of power dedicated to maintaining

progress toward the state's objectives.

Much as an organism is constrained in its overall development by the bounds of genetic herritage, so is the state. Animal genes determine the shape, color, intelligence, and to a certain extent, emotional disposition of an organism. Similar factors can be identified which shape the state and its ability to interact within the community of states. These are its location, its natural resource inheiritance, its population, and the strength of its basic institutions and ideologies. These factors form a foundation for establishing relative strength among nations. They are also largely responsible for whether a nation is predisposed to conflict and how a nation is most likely to resolve confrontations. None of these genetic factors can be readily changed, with the most significant, lasting changes, except for occasional radical mutations, spanning two or more generations.

In their book, The Logic of International Relations, political scientists Steven Rosen and Walter Jones describe seven ingredients of power in international relations: geography, natural resources, population, perceived images of self and others, public support and cohesion, industrial/military capacity, and national leadership.[30] A more basic, although for its time quite perceptive, description of a similar set of factors was presented by Sun Tzu. He defines five fundamental factors of strategic power: moral influence, weather, terrain, command, and doctrine.[31] Although the terms differ and do not have the international flavor of those defined by Rosen and Jones, the similarities between the two are apparent. Particularly significant is the presence of geography, moral strength, and leadership in both summaries of the sources of power. Correlation to the roots of power

among organic entities is also apparent with physical strength, moral courage, and intellect the factors most often cited in identifying causes of success or failure in interpersonal conflict. Also significant is the fact that in limited circumstances or time spaces, a seemingly major power may, in effect, be able to muster less relative power than an apparently weaker adversary due to the force multiplier effects of these factors.

Although each of these factors is important in defining a state's power base across the full range of conflict, some are more important at the lower end of the spectrum. These are the least changeable factors, which are more determinant in their nature; geography, population, and natural resources. Just as a jockey cannot will himself large enough to be a heavyweight boxer, a weakly positioned nation cannot easily change its relative strength in these vital areas. Prime among the determinants is geography.

Although the effects of such geographic factors as size, natural access/barriers, and climate are well documented throughout history, study of their relationship to political development is a relatively new endeavor. As an off-shoot of the arguments of the social darwinists, a school of thought evolved at the beginning of the twentieth century around the search for simple laws which would link international affairs with geographic relationships. The leading apostle of this movement was Sir Halford Mackinder, who defined geopolitical theory with his heartland formula. Mackinder asserted, "He who rules Eastern Europe commands the Heartland of Eurasia; who rules the Heartland commands the World Island of Europe, Asia, and Africa; and who rules the World Island commands the world."[32] He; together with Alfred T. Mahan, who theorized that the

state who controlled the seas controlled its destiny and with it the world's; set the foundation of geopolitical thought. Like the perversions of the earlier organic theories of statehood, however, geopolitical theory underwent a similar, unwarranted transition at the hands of the Nazis. Historian Edward Mead Earle describes a succession of German geographic philosophers beginning with the late nineteenth century writings of Friedrich Ratzel and extending to Karl Haushofer. Haushofer assimilated concepts from geography and political/military science into a concise geopolitical theory which was used to rationalize Nazi geographic aggression. Based upon five underlying concepts, geopoliticians of Haushofer's school defined their own logic of international relations. According to Earl, these concepts were: autarky, or a sense of national self-reliance ultimately possible only under conditions of world hegonomy; lebensraum, or the right to ample room for a nation's population; panregionalism, or the conhesion of groups of people or areas with shared characteristics such as language or cultural herritage; landpower versus seapower, similar to Mackinder's heartland theory but with a moralizing twist towards rationalizing aggression; and frontiers, or the idea that state boundaries are only temporary definitions of the state's political control.[33]

As previously mentioned, Haushofer and his disciples fell prey to the same mistakes that Rudolf Kjellen made in moralizing the organic state lessons of Hegel and the social darwinists. Despite the fact that these abuses contributed considerably to the general retreat of popularity of geopolitical theory, as well as organic state interpretations, there are still significant lessons to be gleaned from the geopoliticians. These lessons, however, are only valid when taken

in context with other state factors, when used to better understand the territorial motivations of ourselves and others, and without attempts to use them to rationalize right and wrong courses of action.

A discussion of geographic factors; especially location, size, and climate; does have considerable significance to future prospects for successfully resolving limited conflicts throughout the world. Many elements, both internal and external, must be considered in viewing possible sources of international conflict. Geography, taken together with the compounding effects of population and natural resource endowment, presents a considerable potpourri of situations which could lead to conflicts having an eventual effect on the security of the United States. Some of these include future access to an adequate supply of raw materials to fuel American economic progress, avoiding the establishment of hostile regimes in neighboring areas of the world, and the U.S. commitment to ideological/economic choice for emerging states and its perceived role as leader of a world movement toward greater human freedoms.

Before moving to a more detailed discussion of these potential limited conflict challenges for the U.S. and its airpower, however, we must further focus our aim on the military sphere to avoid ranging too far afield. Rosen and Jones define war as a distribution *mechanism for* making allocations of scarce goods to competing parties with mutually exclusive claims. A state's relative power to favorably resolve conflict determines its role in dictating its share of the settlement. They explain that this relative power is the synthesizing of a state's actual strength and its willingness to tolerate the costs of conflict.[34] The tools which a nations uses in imposing its strength are its

instruments of power, and it is within these and their internal/ external focus that cost tolerance occurs. Despite numerous identities, the following labels will suffice as a hierarchy of intensity for these instruments: psychosocial/cultural, scientific/technological, economic, political, and, ultimately, military force. Each state interacts with all other states daily through each of these instruments, either through threat of overt action (deterrence) or through actual application. Each would fit as a tool within Rosen and Jones' definition of war and should in fact be considered such; however, this discussion will constrained to the military-political instrument, particularly the application of military force.

Much as in any other area of endeavor, proper application of the instruments of power can only occur in the presence of both a correct blueprint, or conceptualization of potential/proposed actions, and the resources to achieve that blueprint. Since the blueprint dictates the resources, it is appropriate for the present to concentrate on it. In the world of military/political concepts, the most basic blueprints are expressed as doctrines. Although an exact definition of doctrine is as fleeting as an exact definition of limited war, the description offered by AFM 1-1 adequately captures the essence of the role of doctrine in international affairs. In discussing doctrine this manual defines it as the fundamental principles upon which action is taken in support of national objectives. Doctrine, as defined by the Air Force's basic doctrine manual, is a statement of officially sanctioned beliefs and principles which guide us in the application of the instruments of power to achieve our ultimate purposes. This doctrine dictates how we organize, train, equip, and sustain ourselves in pursuit of these

objectives. It further credits accumulation of knowledge gained through study and analysis of our experiences as the source of doctrine.[35] In summary, doctrine is the distillation of our experiences projected upon our perceptions of the future. In short, it is the blueprint which dictates rules of employment of our instruments of power, required resources, and when/if we should engage or avoid conflict situations.

The most fundamental set of doctrinal principles for the use of the military instrument of power is found in the principles of war. AFM 1-1 describes the principles of war as representative of "generally accepted major truths which have been proved successful in the art and science of conducting war."[36] Although perceptions of the principles of war vary with both situations and observers, there is little doubt that the officially sanctioned list of principles provides valuable insight into potential responses of a force in question. Through both definition and omission of various concepts, one can examine a force's predisposition to various courses of action in varied conflict situations. This point is succinctly made by U.S. Army Colonel Harry Summers in his bestseller, On Strategy. He begins his critique of the Army's perception of the principles of war by stating that their very nature in the February 1962 edition of Field Manual 100-5, the Army equivalent of AFM 1-1 and the basic doctrine manual which governed the Vietnam build-up, was tactical, as opposed to strategic.[37] He goes on to discuss other breaches of faith with the definitions of the principles of war prevailing during the Vietnam era, most notably continual failure to define clear-cut objectives.[38] These will be discussed in greater detail at a later time; however, it is important to note the role of the principles in defining potential strategies. Since military strategies

are predisposed by our own definitions of the principles, probably to a much greater degree than is commonly recognized, their role in shaping conflict resolution techniques is vitally important. This is especially true at the less well defined lower intensity areas of the spectrum of conflict.

Often, however, a discussion of the principles of war degenerates into a list making session. Debates about the efficacy of the principles many times revolve around the differences between assorted lists of principles. Such debates as "Is the Air Force list more correct than the Army list?" or "Are U.S. lists better than corresponding Russian lists?" are only valid in the context of better understanding the nature of the principles themselves, and their dynamic interrelationship to each other. In this regard, the systems-oriented organic model, presented earlier, is especially helpful in understanding why the narrowly drawn, sterile descriptions of the principles of war found in current doctrine manuals are relatively ineffective in defining approaches to low intensity conflict resolution. In pursuit of a more effective model, the principles of war can be presented in a systematic way, which more closely parallels their actual relationship to the functioning world.

At the very heart of virtually every discussion of the principles of war lies the principle of the objective. In a state's definition of the objective is found both the roots of conflict and a window on the proper tools for achieving success, as defined by achieving ones objectives. Application of resources in ways not aimed at achieving the objective are, by nature, ineffectively applied to the degree they do not contribute to achieving the objective. Clausewitz understood the

strategic implications of this when he stated, "War is thus an act of force to compel our adversary to do our will...Physical force is the means; to impose our will on the enemy is the object."[39] The objective is the end which Machiavelli addresses in his discussions of matching ends to means.

In keeping with the spirit of the organic model and its philosophical foundations, the primary strategic objective of the state and its military instrument of power is the security of the state. With regard to the employment of airpower, this objective is clearly defined in AFM 1-1, which describes three fundamental military objectives. These are:

> "Deter attacks against the United States, our allies, and against vital U.S. interests worldwide, including sources of essential materials, energy, and associated lines of communication.
>
> Prevent an enemy from politically coercing the United States, its allies, and friends.
>
> If deterrence fails, fight at the level of intensity and duration necessary to attain U.S. political objectives."[40]

These words, which paraphrase national objectives and apply them to aerospace doctrine, are found in only slightly different form in the Joint Chiefs of Staff military posture statement for Fiscal Year 1985, thus verifying similar objectives for all U.S. military forces.[41] Additionally, a similar set of objectives for Soviet military forces is addressed by Marshall A. A. Grechko in his discussion of the Breshnev Doctrine, endorsed by the 24th Communist Party of the Soviet Union Congress in 1971. This set of objectives states the following hierarchy of security goals for Soviet military forces:

1. Defense of the Soviet homeland.

2. Defense of the community of socialist states.

3. Ensuring peaceful conditions for the building of socialism and communism in other states.[42]

In each of these statements one can see manifestations of the primary levels of the hierarchy of needs. These range from fundamental expressions of the need to protect state survival, to protection of future security of the state, on to protection of allies at the social level. Although the U.S. and Soviet Union express different specific objectives to achieve future security and social needs, the basic levels of needs satisfaction are consistent for both. It is within this context that secondary political and military objectives are formulated to deal with limited conflict situations.

The establishment of objectives does not halt with the definition of national security objectives that are relatively fixed with regard to time. The major challenge in security management is to develop lower level objectives for each tier of the systematic security plan for the defense of the state. These objectives proceed from general to specific and become increasingly more tactically oriented until eventually each player in an engagement has his/her own objectives to focus upon. The problems in achieving such a nested objective plan, particularly in response to limited intensity conflicts, are many. First, it is often quite difficult to view small wars among lesser powers in a far-off corner of the globe as a threat to national security. Indeed, they may not represent such a threat; however, without a well-reasoned national security objective plan, a nation is prone to react haphazardly to unprecedented situations. Also, a discussion of such a nested plan is

often criticized as unnecessarily constraining to tactical forces in executing their missions. This can, and does in fact, happen, but unneccesarily so. Generally, the only reasonable constraint on objectives is that they be actionable at the level intended. Vaguely stated objectives or those beyond the capabilities of their intended executors are equally ineffective, as are objectives which unnecessarily constrain a force by over specifying too much detail.

The problem of reconciling objectives is one which the United States never completely solved during its involvement in Vietnam. Summers demonstrates the pitfalls of defining objectives with the example of a change in defintion in FM 100-5 from the 1962 to the 1968 edition. This seemingly simple change altered the official definition of the principle of the objective for the Army from requiring "the destruction of the enemy's armed forces and his will to fight," to "defeat of the enemy's armed forces."[43] This, of course, presented at least two problems which may have ultimately defined the fundamental reasons for U.S. failure in Vietnam. First, it violated the classical association between physical and moral strength, a connection which is especially important when confronting the amorphous opponents so prevalent in limited conflicts. The vitality of this connection has been identified by many military writers, but none more clearly than Sun Tzu and Clausewitz. In a passage previously cited, Sun Tzu declares, "War is a matter of vital importance to the state; the province of life or death; the road to survival or ruin...Therefore appraise it in terms of the five fundemental factors...The first of these is moral influence...By moral influence I mean that which causes the people to be in harmony with their leaders, so that they will accompany them in life

and unto death without fear of mortal peril."[44] Numerous other passages throughout The Art of War demonstrate Sun Tzu's complete dedication to the importance of including moral, as well as physical, objectives in ones overall approach to war. These same sentiments are also echoed by Clauswitz in another previously cited passage, "War is thus an act of force to compel our adversary to do our will."[45] He continues in discussing the limits on the use of physical force as follows, "As the greatest use of force does not exclude the cooperation of intelligence, the ruthless user of force who shrinks from no amount of bloodshed must gain an advantage if his opponent does not do the same. Thus each drives the other to extremes which are limited only by the adversary's strength of resistance."[46] He completes this discussion, driving a stake between an opponent's will and his strength, stating, "If our opponent is to do our will, we must put him in a position more disadvantageous to him than the sacrifice which we demand of him. The disadvantage must not appear transitory, or he would wait for a more favorable time and refuse to yield."[47] Clausewitz clearly understood the synergy of will and physical ability. Both he and Sun Tzu serve modern planners well in defining the parameters for military objectives, providing invaluable insight into one of the major problems in coping with low intensity warfare.

In considering the future application of airpower in limited conflict, one might rightly ask whether current Air Force doctrine more clearly defines the principle of the objective than did Vietnam era Army doctrine. At quick glance, this appears to be true. AFM 1-1 states, "The ultimate military objective of war is to neutralize or destroy the enemy's armed forces and his will to fight. However, the

intimate bond which ties war to politics cannot be ignored. War is a means to achieving a political objective and must never be considered apart from the political end."[48] Further examination reveals that this understanding is even more deeply rooted vis-a-vis the connection with political objectives. This is primarily evident in the establishment of deterrence as the principal goal for aerospace forces, an objective clearly focused on the will rather than the physical strength of a potential adversary. Other threads include a focus on effects, not necessarily limited to military destruction, and the use of such terms as neutralize and capture as alternatives to overt destruction.[49] Although these indicators do not guarantee proper objective focus in the murky netherworld of limited warfare, they do hint at its potential. Objectives are only as good, however, as the proper definition of the underlying problems and the techniques used to accomplish them. Since the previous discussion of the organic state presents a model for problem definition and predicition which incorporates many different factors into an understanding of state responses, it is appropriate now to discuss subordinate principles of war, as they apply as techniques for coping with limited conflict resolution.

The remaining principles of war can be organized into three nested tiers in accordance with their relative generality and importance in achieving the objective. These tiers basically correlate to traditional demarcations in battle plans. The first is the grand tactical level, or the level at which strategies (ends) are translated into execution (means). Three principles operate at this level. The first, the principle of the offensive, has an established home in current doctrine and has been consistently viewed as the key to victory. AFM 1-1

provides an adequate discussion of the offensive, primarily distinguishing offensive action as synonomous with initiative. Air Force doctrine holds that aerospace forces are uniquely suited to offensive action through their ability to penetrate to the heart of an adversary without first defeating him in detail. Consequently, airpower can be used early to convey the war to the enemy and thereby gain the initiative, and with it momentum.[50] This concept was at the heart of plans for the air war over Europe in World War II, as well as during Linebacker II operations in Vietnam.

The second two principles associated with the grand tactical level, however, are not recognized by the Air Force, perhaps at the opportunity cost of reduced range of action across the spectrum of conflict. Clausewitz certainly understood the crucial role of the first of these, the principle of defense, when he stated, "Military action has two separate forms, attack and defense, which are very different and of unequal strength."[51] He then proceeded to explain that the defense is the stronger form and therefore a better strategy for the weaker of two opponents, a position traditionally held by U.S. foes in limited conflicts, British General J. F. C. Fuller expounds upon this theme in his interpretation of Clausewitz's advocacy of the defense as the stronger form of war. Fuller cites Clausewitz's assertion of the object of defense as preservation. In this capacity, he explains, it is easier to maintain than to acquire, a seemingly political application of Newton's law of inertia. He goes on to stress the point, however, that the defensive cannnot lead to victory without the capitulation of an adversary. It, therefore, has validity only so far as ones own relative weakness requires abstainence from the offensive. In

conclusion, he states that neither the offensive or the defensive is inherently stronger or weaker but are, instead, complementary.[52]

This is not an especially new perspective, nor is it especially exclusive. In early oriental writings the Taoist-like yen and yang relationship between offense and defense clearly emerges. Sun Tzu understood this relationship when he wrote the following formula for engagement: "Thus, what is of supreme importance in war is to attack the enemy's strategy; next best is to disrupt his alliances; the next best is to attack his army."[53] He goes on to refine this formula by explaining, "The art of using troops is this: When ten to enemy's one, surround him; when five time his strength, attack him; if double his strength, divide him; if equally matched you may engage him; if weaker numerically be capable of withdrawing; and if in all respects unequal, be capable of eluding him, for a small force is but booty for one more powerful."[54] A similar discussion is presented by Musashi in his explanation of how to fend off the attacks of an adversary, thus enabling a weaker force to to defeat a numerically superior force. This is done by controlled, directed attacks to deflate an enemy's initiative, not his actual physical force.[55] Nor was the relationship lost on Mao in his summation of Chinese revolutionary strategy. Sun Tzu translator, Griffith, delineates Mao's embodiment of the constantly shifting relationship between offense and defense in quoting his strategy against the Japanese in World War II:

"1. When the enemy advances, we retreat!

2. When the enemy halts, we harass!

3. When the enemy seeks to avoid battle, we attack!

4. When the enemy retreats, we pursue!"[56]

Mao does not confuse the strategic and tactical initiative, and, consequently, realizes the ultimate value of the constant trade-off between offense and defense.

Offense and defense alone, however, do not comprise the grand tactical tier. A third principle exists which is not traditionally recognized as such. This is the principle of deterrence. Deterrence justly ranks with offense and defense as an executor of the objective, incorporating elements from both offense and defense in synergetic blends, thereby assuming its own unique character. Adequate deterrence depends more on the potential to assume offensive or defensive postures and consists of capability, resolve to use it, and an opponent's perception of that capability and resolve. As a tactic, deterrence can employ both military and nonmilitary instruments of power in providing better freedom of action. In this way, wars, particularly wars of limited intensity, can conceivably be waged with little, or no, overt combat. Additionally, through the use of deception and surprise, deterrence can serve as a force multiplier to magnify the impact of offensive and defensive efforts. This concept is embodied in the earlier cited refrain from Sun Tzu that attacking an enemy's strategy, not his force, is the most important consideration in war. At the lower levels of intensity, where all out exchanges of military power are generally inappropriate, the constant blending and reblending of offense, defense, and deterrence are essential to maintaining appropriate responses to perceived threats to U.S. needs.

This synthesis is executed in the real world through another subset of trade-offs at a third, or tactical, tier of the principles of war. This tier consists of the principles of mass and manuver. These

principles, together with a fourth support tier, which will be discussed simultaneously, provide the specific framework for achieving offense, defense, and deterrence enroute to achieving the state's objectives and, therefore, dictate specific deployment/employment options. As a result, our perceptions of how to achieve this level provide significant insight into the doctrine, development, training, and application cycle which shapes the way we are structured to fight wars.

Actual success or failure in military operations is directly attributable to the correct synthesis of mass and maneuver in operational plans. Mass, according to AFM 1-1, is the raw application of military force. Maneuver, on the other hand, is purposeful movement of a force to properly align ones own mass with enemy weaknesses. Much in the same way that offense, defense, and deterrence comprise a constantly shifting equilibrium, so do mass and manuver. Whereas mass provides the striking force to acheive objectives, manuver adds the velocity which transforms and magnifies the potential energy inherent in a massed force into momentum. Consequently, it is essentially meaningless to discuss either concept as a discrete entity on the battlefield. According to AFM 1-1, "Effective use of maneuver can maintain the initiative, dictate terms of engagement, retain security, and position forces at the right time and place to execute surprise attacks. Manuver permits the rapid massing of combat power and effective disengagement of forces."[57] This is, of course, one of the major advantages of airpower; the ability to rapidly mass and exert considerably concentrated power, especially through the use of area weapons or weapons of massed destruction. Each of these principles, mass and manuver, has a closely associated set of support principles which further refine its translation into tactical

operations, as well as coordinating the entire momentum equation.

The subordinate principles of war most closely associated with mass are economy of force and unity of effort. Similarly to previously discussed principles, these also reflect opposite facets of the same cutting jewel. Economy of force reflects a force which concentrates at the correct time and place without wasting resources on peripheral objectives. Unity of effort, on the other hand, provides a common command for a fighting force focused upon a single objective.[58] Together, these two principles serve to consolidate the components of an instrument of power into a cohesive unit. Unity of effort insures that all components pull together to form a coherent striking force, while economy of force focuses that strike against the appropriate targets. Together, they await only the complementary manuver to direct them to the target area.

The principle of manuver, likewise, has its own component set of supporting principles: simplicity, surprise, and timing and tempo. Simplicity, according to AFM 1-1, promotes understanding, reduces confusion, and eases execution by reducing unnecessary detail and clarifying areas of potential misunderstanding. In this regard, it magnifies the effective power of a force by making it more efficient through the reduction of nonpurposeful action.[59] Similarly, surprise also magnifies the impact of a force by allowing it to mass at a time and place and/or in a manner unexpected by an opponent, and, therefore where and when he is not fully prepared to defend. As such, surprise can be a crucial factor in any attempt to seize initiative.[60] Also, essential to gaining surprise is timing and tempo. It is at this level of execution that time and rate of application become especially

important. Again, according to AFM 1-1, the primary function of timing and tempo is to execute actions at a time, frequency, and intensity that will most effectively accomplish a force's objective.[61]

Collectively, mass and manuver, together with their supporting principles, provide the battlefield momentum to defeat an enemy. Reverting to our organic analogy, however, these principles still provide only rules of thumb for the application of the tools used to accomplish a state's established political objectives. They do not, alone, provide either the flexibility, sustainability, or adaptability necessary to operate in the on-again/off-again environment of low intensity conflict. In this regard, the principles of war are primarily representative of the weapons, or manual, facet of a combat operations triad. The remaining pieces; commmand, control, communications, and intelligence (C^3I) and logistical support; complete the triage.

A detailed understanding of these two facets is especially essential in understanding limited conflict options. Historically, low intensity wars, from the strategic viewpoint of the U.S., have manifested two primary characteristics. First, they are, by nature, prolonged wars of attrition with conventionally, offensively oriented American forces generally finding it extremely difficult to force the enemy to the battlefield. Second, they vary widely, as well as unpredictably, in tactical intensity. Confronted with this type of scenario and with enemies who have well learned the value of anonymity, evasion, and propaganda, U.S. forces will almost certainly find themselves in reactive, as opposed to initiating, roles in most near-term future conflicts. Neither U.S. national interests nor the U.S. economy can support maintaining a strong enough presence world-wide

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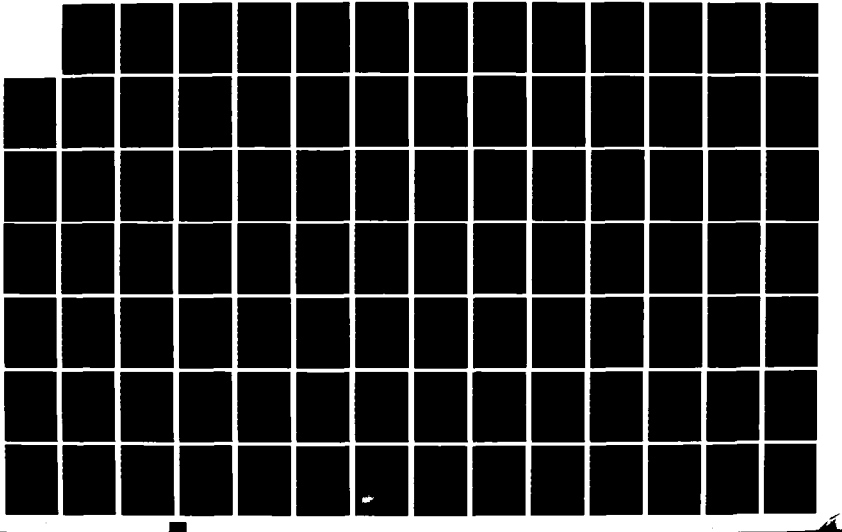

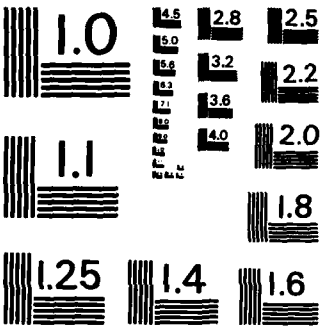

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS - 1963 - A

to prevent the U.S. from being a target for a host of international terrorists, guerillas and third-world regional powers. Consequently, the United States must be prepared to react rapidly to any part of the globe with a variable size force ranging from squad-size antiterrorist teams to division-plus sized conventional combined arms task forces, complete with armor and air cover. This high degree of uncertainty places considerable pressure on both logistic and C^3I elements to gain maximum effectiveness from deployed forces operating from temporary, and probably inadequate, facilities in unfamiliar areas.

In this uncertain environment, the presence of appropriate C^3I systems is invaluable, and it is particularly important that they must rest upon a foundation of sound information. According to terrorism expert and former Senate aide, Dr. Neil C. Livingstone, "Good intelligence provides the first line of defense against terrorism and is perhaps the most critical tool in successful counterinsurgency operations."[62] The impact of intelligence failures at Son Tay, during the Mayaguez incident, and in Teheran are well documented. Likewise, the success of the Israelis at Entebbe and the Italian rescue of American General Dozier are equally well documented. Both sets of events validate the central role proper intelligence plays in controlling low intensity conflicts and make information gathering and analysis missions crucial from the very beginning of contingency planning through the termination of operations.

In the gray areas of limited conflict response the most crucial element in success or failure is the ability of command authorities to make timely and accurate decisions about tactical deployment/employment and about target selection and rate of attack. This function is equally

important to both U.S. forces and opponents, alike. In small scale battles, it is the flexibility and adaptability of the field commanders, more so than in any other projected U.S. contingency, that will dictate success or failure. In this regard, decision makers from the President through the Joint Chiefs and Unified Commanders to field commanders will not have well-worn computer simulations to channelize their actions. Initiatives, responses, and counterresponses must be well-reasoned, but quickly forthcoming to prevent mounting momentum on behalf of an adversary. This is the central thesis of Col John Boyd's OBSERVATION-ORIENTATION-DECISION-ACTION (OODA) loop, eloquently critiqued by Air Force Major George Orr. According to Boyd, the adversary who can continue to cycle through the loop most rapidly and appropriately will prevail in an engagement.[63] Prevail in enough engagements and one wins the war. The engagements, however, must be the correct engagements, especially in limited conflicts, or tactical victories may quickly transform into strategic defeats. This is essentially the point made by Col Summers in his discussion of a fatal flaw with American objectives in Vietnam. In reflecting upon the American decision to assume the offensive in Vietnam, he stated, "While a strategic offensive against North Vietnam may not have been politically feasible, we could have taken the tactical offensive to isolate the battlefield. But instead of orientating on North Vietnam--the source of the war--we turned our attention to the symptom--the guerilla war in the south. Our new 'strategy' of counterinsurgency blinded us to the fact that the guerilla war was tactical and not strategic. It was a kind of economy of force operation on the part of North Viet Nam to buy time and to wear down superior U.S. military

forces."[64] We had oriented on the wrong target and structured our forces to defeat that target. Despite winning virtually every battle we fought, when communist tanks rolled into Saigon in 1975 we realized our first ever taste of strategic defeat at the hands of a much less powerful, but more resourceful, regional force. Hanoi, not the U.S., had most appropriately applied Boyd's theories. There is no reason to assume future low intensity wars will be less difficult to diagnose and quell; consequently, pressure will remain on the forces tailored to fight these wars, as well as upon the tailors, to react correctly based upon accurate, relevant intelligence and decisions.

On the other hand, the best C^3I system in the world and the best tactical weaponry are only as good as the resources to sustain them. Without an adequate logistic base, even the most brilliant battle plans are doomed, ala the Germans at the Battle of the Bulge or Napolean in Russia. Historian Dr. Martin Van Creveld captures the essence of the role of logistics on the battlefield in his comment,

> "That all warfare consists of an endless series of [logistical] difficulties, things that go wrong is what Clausewitz meant when talking about the 'friction of war'...Hundreds of books on strategy and tactics have been written for every one on logistics...This lack of regard is in spite--or perhaps because--of the fact that logistics make up as much as nine tenths of the business of war, and that the mathematical problems involved in calculating the movements and supply of armies are, to quote Napolean, not unworthy of a Leibnitz or a Newton."[65]

Although the U.S. has a strong tradition as a logistic giant; reflected in Summers' comments that at the height of the war in Vietnam the Army was able to move almost a million soldiers a year in an out of Vietnam, feed them, clothe them, house them, supply them with arms and

ammunition, and generally sustain them better than any Army had ever been sustained in the field;[66] the rapidly changing world situation provides no room for relaxation. This point is especially driven home in a recent Armed Forces Journal, International article on the U.S. rapid deployment forces. In this article, Armed Force Journal cites six key questions which define the logic behind the U.S. Central Command, commonly known as the USJRDF. These questions are:

"1. Which military forces should be sent?
2. In what order should they be deployed?
3. How long would it take them to get there?
4. How would they be sustained?
5. Who would be the on-scene commander?
6. Could they accomplish the mission?"[67]

Although these questions were originally framed to address limited war problems in the Persian Gulf, they apply equally well to similar limited conflict scenarios throughout the world. In this regard, it is especially interesting to note that three of the six questions; 2, 3, and 4; directly address logistical issues, while two others, 1 and 6, depend heavily on logistical factors in resolving final plans. Also, two other questions, one and five, deal directly with C^3I issues. Much as the British learned during the Falkand Islands War with Argentina, the challenges of organizing, equipping, and sustaining a force over strained, extended lines of communication, especially if they are not totally secure, may make the actual tactical end of small-scale wars the simplest problems to solve.

Before concluding this discussion with a brief look into the

potential for U.S. involvement in limited conflict in the future, it is appropriate to first consolidate the previous discussion into a brief summary of the types of air missions most applicable to limited conflict involvement. In his article on the background of the uses of airpower in low intensity conflict, National Defense University Fellow, Air Force Colonel Kenneth Alnwick, identifies a number of trends which define changes in the low intensity conflict environment and, therefore, in the requirements for future airpower employment. These are:

"CLASSIC	CONTEMPORARY
a. Closely tied to political objectives.	a. Closely tied to political objectives.
b. Integrates many elements of national power.	b. Tailored force.
c. Protracted guerilla and counterguerilla warfare.	c. Short Duration.
d. Limited reliance on specialized equipment.	d. Takes advantage of sophisticated technology.
e. Limited connections between guerilla forces in different countries.	e. Worldwide connections among insurgent movements."[68]

These trends indicate a shift towards more conventionalized warfare, which will not likely be regarded as limited or low intensity by our third world adversaries; nor is it likely to be viewed as such by our own troops engaged in the actual fighting. They do not, however, mean an end to lower intensity forms of engagement, such as terrorism or counterinsurgency, only a broadening of the capabilities of potential adversaries compounded by diverging national interests throughout the world. This opinion squares well with a similar offering by Harvard professor Eliot Cohen in his article on American conduct in small wars. In this article, Mr. Cohen describes a conflict spectrum which addresses

many points already made herein. He feels that American interests and obligations overseas make small wars inevitable and describes these wars through three examples of potential U.S. small wars: a war to preserve the independence of Honduras, Costa Rica, and Panama; a war to prevent Iranian disruption of Western and Japanese oil supplies; and/or a war to preserve the independence of Thailand.[69] Opponents in these wars could range from small terrorist bands to well-established regional combined arms field armies. Resultantly, the uses of airpower will run the gamut from light tactical airlift to close air support, on to sophisticated electronic missions such as SAM suppression. One thing is certain, however, basic missions such reconnaissance, interdiction, and airlift will head the list of top U.S. priorities as we struggle to establish an accurate data base about the foe and area of operations, build up a sufficient support base, establish a modicum of security for our forces, and attrit enemy resources to keep them off-balance and unable to answer our initiatives. At the same time, newer missions concepts such as C^3 countermeasures and electronic support missions will become increasingly important to helping preserve our forces and maintaining adequate intratheatre deterrence levels while we manuver, both politically and militarily, to gradually shift from the defense to the offense as our deployed capablility increases. Along the way, the day-to-day training of our aircrews and their performance during widely publicized exercises will help serve to remind potential adversaries that their needs are better served at the bargaining table than on the battlefield.

In conclusion, tommorrow's world is ripe for a succession of low intensity wars involving the United States. Numerous third world nations are barely surviving and are still striving to pull their states

up to the security level of the hierarchy of needs. At the same time, well intentioned self-actualization endeavors by the U.S. throughout the world will continue to set-up ugly American situations which can be exploited by third world adversaries, including Soviet proxies, for their propaganda value. Increasingly, fundamental rifts are visible between the nonaligned nations and the superpowers, especially the U.S., based upon rising expectation, envy, and chauvinism about national resources. Although not all of these rifts will turn into wars, nor will all wars involve the U.S., we would still do well to accept Eliot Cohen's admonition to view U.S. action in small wars as inevitable and allocate a significant proportion of our military resources to preparing for them.

There is general consensus the world by the year 2000 will be a world which will be constrained by increasing traditional natural resource shortages. How much impact this has on world affairs will be largely determined by how quickly the developed nations can employ substitute materials available in greater quantities to feed their economies. Failing this endeavor, states will find themselves increasingly confronting each other at lower levels of the hierarchy of needs and will more readily resort to the primitive solution of warfare than the more mature negotiation to settle their differences. Further, since conventional rationality has less impact at the primary level of needs satisfaction, state responses are apt to be unpredictable, particularly in the least developed areas of the third world. Since the superpowers seem prone to continue supplying sophisticated, modern arms to otherwise unsophisticated military forces, we can expect to encounter small war scenarios synonomous with confronting a child with a loaded

.45. The child may not react as expected, and we may not be able to dodge the bullet due to either misperception or faulty reaction. Nonethe-less we must be prepared to encounter these third world adversaries; regardless of their motives, their effects can be just as deadly.

These trends are, of course, exacerbated by current third world demographic trends. Population projections by the American Assembly at Columbia University, the Club of Rome/MIT Research Team, and the U.S. Academy of Science all demonstrate a real-life Malthusian problem of world-wide proportions. An American Assembly study projects third world population growth through the next two decades at nearly three per cent per year in both Latin America and Africa, as opposed to two per cent for the world at-large and only one per cent in the developed countries.[70] As increased population pressures cause wider areas of malnutrition and starvation in the world similar to that already in evidence in East Central Africa, the potential for conflict will increase markedly in concert with heightened tensions. Depressed nations fearing the lack of ability to satisfy their most basic needs could hold the vital natural resources, which are predominately located in the same areas of the world, or access routes to these resources hostage. Yet the ransoms of food they may demand might be unavailable as aquifers and natural supplies of fertilizers become depleted, lowering world-wide rates of food production.

This process in turn could easily curtail industrial growth in other emerging nations, leading to economic recessions and further increases in the world hostility level. This process would increase the risk of war between third-world nations, inviting involvement by the developed nations, either directly or through proxies, when their

needs dictate. These forays could eventually pit traditional/natural allies against each other.

This type of world order could be especially dangerous to a United States which depends heavily on industrial strength and technological solutions to problems. In this regard, the U.S. must be ever mindful of world-wide developments and their interlocking significance. Also, it should avoid the tendency to be affected by third world media attempts to sway public opinion through the use of international propaganda. This is particularly true in avoiding inadvertently supporting the causes of international terrorists and unpopular guerilla movements, by allowing them to exert psychological pressure through the media beyond their nominal physical strength.

U.S. rapid deployment forces, particularly rapidly responding airpower, should remain well-oiled but unobtrusive . Since conflicts are unpredictable, training systems, as well as weapons and C^3I systems, must stress flexibility, stamina, and adaptability. In this regard, we should focus upon resource oriented missions, particularly airlift and interdiction, to provide for our own forces while denying the enemy what he needs to function.

Above all else we should continue to understand state interactions from the point of view of organic response. States will continue to form and mature according to the blueprint encoded in their genetic heritage, influenced by their environment, and motivated by the hierarchy of needs. In this respect, some states will be friendly, some not; some will be rational, some not; but above all else, they will be motivated by preserving their own self-interest. As we learned from the Roman Empire, states not only live like organisms, they can also die

like them. Without clearly defined international security objectives; an adequate, transportable low intensity warfare doctrine; the weapons and C^3I systems to properly employ it; and the logistical base to sustain it; we will find it increasingly difficult to maintain U.S. national interests. This approach must include security of vital resource supply areas and their access routes, protection of U.S. cultural, economic, and political systems; and, then, the security interests of our allies. Otherwise, we may find our own survival threatened, despite never engaging the Soviet Union in direct combat. In these situations the flexibility and speed of airpower and the emerging role of aerospace operations guarantee airpower a leading role in low intensity conflict deterrence and resolution.

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LOW INTENSITY CONFLICT IN USAF FORMAL SCHOOLS

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Formal military education serves the broad purpose of indoctrinating service members in the world view, purpose and activities of the armed forces. The importance of Low Intensity Conflict (LIC) to our long term national interests demands an examination of how well we prepare our service people for performing at this end of the conflict spectrum. We must adapt our educational programs to meet the need of future conflict whenever we discover such a need. It is reasonable to expect that the efforts of each Air Force formal school should be part of a comprehensive whole which includes LIC and Special Operations Forces along with the other important Air Force roles and missions. At each higher level of Professional Military Education (PME), officers and senior non-commissioned officers should be educated in the aspects of LIC commensurate with their advancing level of responsibility. This paper is intended to be a step in that direction for the Air Force.

DEFINITIONS AND METHOD

To lay the groundwork for this examination of Air Force educational treatment of Low Intensity Conflict topics, it is necessary to first define some of the terms to be used and to offer a rationale for the method. The first term needing a definition is Low Intensity Conflict. [There is no standard definition of LIC in JCS Pub 1, Dictionary of Military and Associated Terms, although the U.S. Army and various writers have adopted their own in order to address the question] For the

purpose of this examination, LIC will be defined based on how it is conducted rather than on some level of violence in military operations. Conceivably, the root causes of a low intensity conflict would remain constant regardless of how high up the scale hostilities might climb. Thus, a "limited war" confined in space or sophistication of weaponry would not necessarily be a case of LIC, whereas the seizure of power in tiny Grenada by the New Jewel Movement or the massive American involvement in Vietnam would. For the purposes of this paper, LIC has these definitive features:

* LIC is a socio-political quest for power which feeds on an unsatisfied popular need for the right conditions of economic opportunity, fair government, or civil justice.

* LIC is usually localized, but not necessarily within current political boundaries.

* LIC is a protracted struggle lasting as long as an unsatisfied popular need exists.

* LIC ranges from social pressure and isolated acts of terrorism to the engagement of conventional military forces in either rural or urban settings.

Special Operations units of the various services as well as Security Assistance Teams have become associated with the

military aspects of LIC because their missions are compatible with the requirements.[2] Those missions are unconventional warfare (UW), counterinsurgency (COIN), civic action (CA), direct action missions (DA), psychological operations (PSYOPS), terrorism, and the role of Special Operations Forces (SOF). The following definitions are adapted from JCS Publication 1, Dictionary of Military and Associated Terms.

UW: Military operations in enemy or sensitive territory usually supported and directed by an external source.

COIN: Military, paramilitary, political, economic, psychological, and civic actions taken by a constituted government to defeat an organized movement aimed at the overthrow of the constituted authority by means of subversion and armed conflict.

CA: Military actions taken by the US or a host nation to ameliorate the condition of the civil population in the areas of education, training, public works, agriculture, transportation, communications, health, sanitation and others.

DA: Military missions of limited duration executed to accomplish a very specific goal such as demolition or POW rescue.

PSYOP: Political, military, economic, and ideological actions taken to affect the perceptions and actions of a target audience.

TERRORISM: The act or threat of violence made to affect the Perceptions or actions of a target audience.

Special Operations Forces (SOF): Specially organized, trained, and equipped military units established to conduct and/or support UW, Counterterrorist activities, COIN, PSYOPS, DA missions and other missions as required.[3]

These Air Force formal schools will be examined to determine how they handle the complex issue of LIC: US Air Force Academy (USAFA), Air Force Reserve Officer Training Corps (AFROTC), Squadron Officer School (SOS), Air Command and Staff College (ACSC), Air War College (AWC) and the USAF Special Operations School (USAFSOS). The courses provided by one school are not readily comparable to those of another due to graduated levels of student experience and differing emphasis placed on particular topics. Therefore, the courses are compared based on the actual hours of classroom time, seminar hours or non-resident hours provided. In absolute terms and as a percentage of educational units, classroom hours and lesson units provide a measure of the importance assigned to a topic in the school curriculum. Examining the number of students graduated each year will give an

indication of how quickly the Air Force community is being exposed to the concepts of LIC in formal schools.

EDUCATION IS THE KEY TO SUCCESS IN LIC

Low Intensity Conflict presents our nation its greatest foreign policy challenge for at least the rest of this century. The United States has compiled a mixed record in meeting this challenge since the Second World War. Early successes in stabilizing Greece and the Philippines have given way to agonizing setbacks in Southeast Asia, Cuba, Angola, Ethiopia, Iran and Nicaragua to name a few. The lamentable outcome of our involvement in SEA points out the deficiencies (or at least the limited effectiveness) of sending conventional military forces to engage an enemy waging a war based on socio-political ideals. Unfortunately, the emotional loading still laid on the SEA experience seems to prevent popular acceptance of the LIC lessons bought at such high cost.[4] The burden military educators carry is to translate the successes and failures of the US and other free nations such as the United Kingdom, into useful learning that will be used by our forces to avoid the failures of the past and to repeat our successes in the future.

The nuclear superpowers each fear the results of a nuclear exchange which might follow the uncontrolled escalation of conventional hostilities and thus, an automatic mechanism exists to keep confrontations at the low end of the conflict spectrum.

At the same time, rising Third World expectations for economic growth and personal freedoms coupled with the proliferation of small arms and conventional weapons have become fertile ground for insurgencies or "wars of national liberation". The Soviet position on these wars was restated very well in the new constitution approved by the Presidium of the Supreme Soviet on 27 May 1977. It states in chapter IV, Article 28, "The Soviet Union is committed to strengthening the position of world socialism, of supporting the struggles of peoples for national liberation and social progress". It is possible to speculate that the war between the East and West fort the Third World, the "Third World" War if you will, has already begun.

Success in LIC will first require a clear understanding of the challenge posed by the propagation of a hostile ideology in depressed areas of the Third World. Second, a plan will be needed to meet the challenge using economic, political, humanitarian and military action. Finally, our society must consciously decide to meet the challenge by providing the leadership, resources and stamina to win in the long haul. Educators dedicated to the preservation of western society have the responsibility of giving the nation a clear statement of the challenge as it exists today. They must understand and communicate the knowledge gained from past experience and they must take a leading role in formulating and selling the doctrine, policy and operational techniques for waging a lasting peace.

AIRPOWER PLAYS AN IMPORTANT ROLE IN LIC

Several U.S. Air Force writers have examined the role of airpower in Low Intensity Conflicts. Major Thomas F. Cartwright has written about the successful campaigns against Malayan insurgents and the Huk army in the Philippines.[5] Lt Col David J. Dean has shown how the British used airpower in the Middle East of fifty years ago to achieve political results.[6] Finally, Col Kenneth J. Alnwick has summarized the roles played by airpower in Low Intensity Conflict situations from Arabia in WWI to Southeast Asia less than a decade ago.[7] Consistently similar evaluations of airpower's role in LIC give a solid foundation on which to build and evaluate educational programs. A brief review of the roles cited is in order.

AIRLIFT: Movement of soldiers and support over difficult terrain or great distances would seem to be the most critical role played by airpower. Superior mobility gives the option of choosing when and where to fight and it points out an innate superiority over an adversary. Airlift also provides a most valuable tool for conducting civic actions and for supporting friendly forces.

RECONNAISSANCE: Keeping an eye on an adversary enables the commander to employ forces when and where it is most advantageous, and it avoids surprise attack by an enemy.

AIR STRIKES: Attack by aircraft has generally been of limited value in LIC, but in specific instances it has been crucial. Quick reaction has been the key characteristic for success.

MEDICAL EVACUATION: Fast access to life-saving medical care is invaluable for maintaining the motivation of forces in the field.

AERIAL SPRAYING: British and American forces have used aerial delivered defoliants in LIC. The British reduced the support base of the Communist insurgents in Malaya by killing their crops; American C-123's cleared foliage from vital highways and around vulnerable outposts. Aerial delivery of pesticides and fertilizer is also an important capability for military support to civil action.

PSYCHOLOGICAL OPERATIONS: Both harassment air strikes on field units and propaganda flights have been used. The British found harassment strikes in Malaya particularly effective in separating the insurgents from their support base.

Col Alnwick has recognized the airpower available for LIC operations today stands at a crossroads between classical, low technology equipment and what appears to be a move towards high-technology, expensive equipment for contemporary situations.[8] The wisdom of a move away from aircraft weapons and support equipment available in the Third World towards exotic systems is yet to be proven. For crucial points such as this,

the contributions of educators well versed in historical precedent as well as current capabilities and costs, may play a vital role in helping service and joint decision makers choose the best course.

AIR FORCE LIC EDUCATION INVENTORY

This examination of USAF educational courses relating to Low Intensity Conflict asks three broad questions. (1) Do we cover the subject adequately? (2) Do we understand the lessons of history? (3) Are we communicating enough useful information? An exhaustive investigation of these questions would form an educators report card and would point the way towards specific improvement. The following is a quick look which might be useful in identifying the general condition of Air Force LIC education and it may give a basis for improving effectiveness.

USAFA AND AFROTC

The first two programs examined are two of the Air Force commissioning sources, the Air Force Academy and Air Force ROTC. Coverage of the aspects of LIC listed previously is sparce in both cases. The Academy offers just two elective courses in topics related to LIC.[9] History 363, Unconventional Warfare starts with a very broad definition of UW as "any form of war that cannot be labeled 'conventional'", and it covers ancient examples, the communist revolution in Russia, the Huk rebellion

in the Philippines, China, Indochina, and Central America. It provides 42 classroom hours for 3 credits to about 50 students per year. Political Science 421, Political Violence and Revolutionary Change examines how political change is brought about by revolution, insurgency and terrorism. Approximately 90 students per year take this course which provides 42 hours in the classroom and 3 credit hours. The Air Force Academy has an authorized strength of 4546 cadets who receive 135-144 academic credit hours in a four year course. The two courses relating to LIC represent a maximum of 4.5% of the academic load for as much as 3% of the student body.

Annually, about 3350 ROTC students graduate and receive Air Force commissions. During a typical four year college career they each have taken four AFROTC courses involving a recommended 240 hours of classroom time.[10] In Aerospace Studies 100, a mention of Air Force Special Operations aircraft is made during a survey of Air Force aircraft and missions. In AS200 the Vietnam War is recounted and in AS400, National Security Forces in Contemporary American Society, three classroom hours are devoted to revolutionary war while terrorism is covered as a part of another lesson.[11] At most, 7 classroom hours relate to LIC out of 240 recommended - about 3%.[12] The hours presented in AS400 cover broad areas of policy and conflict, and an attempt is made to learn the general lessons of each area and apply them to the future.

SQUADRON OFFICERS SCHOOL

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The Air Force Squadron Officers School (SOS) is the first Professional Military Education (PME) course offered to officers after commissioning. It is organized into four blocks: officership, communications skills, leadership and management, and U.S. Force employment with emphasis on airpower. Topics related to LIC are addressed as part of force employment.[13] The resident course lasts 8 1/2 weeks and some 263.75 hours of academic instruction are provided to a total of 4000 students per year.[14] Of the academic hours, 3.7 or 1.5% are directly related to LIC and SOF while another 13 hours have some relevance.[15] The students in residence receive lessons on "protracted war" concentrating on the Chinese revolution and they are introduced to UW operation, PSYOP concepts and the missions of USAF Special Operations Forces.[16] The SOS correspondence course consists of 74 reading selections, three of which, 2.5% of the total, are related to LIC/SOF.[17] Approximately 5700 students complete SOS by correspondence each year after having been exposed to readings on terrorism, USAF Special Operations Forces and Lt Col David Dean's article "Perspectives on Airpower at the Low End of the Conflict Spectrum".

AIR COMMAND AND STAFF COLLEGE

The middle managers PME course, Air Command and Staff College (ACSC), annually graduates about 440 students in its residence course while 2700 officers graduate from seminars and 2500

complete the course by correspondence.[18] The four areas of study in ACSC are: staff communications and research, command leadership and resource management, national security affairs, and military employment.[19] Some 858 academic instruction hours are offered in the residents course and 34 of those or about 4% are devoted to LIC/SOF in a comprehensive, well thought out program.[20] The non-residence students complete 50 lessons for graduation and of those only one is devoted to LIC/SOF, about 2% of the program.[21] The residence course covers the topics of UW, International Terrorism, Insurgency/Counterinsurgency, the role of airpower, and Soviet UW capabilities. The course is topped off with an Unconventional Warfare Scenario Exercise.

AIR WAR COLLEGE

Air War College (AWC), is the senior PME school for Air Force officers. It addresses the senior officers responsibility for developing, managing and employing airpower as a component of national security.[22] Each year 150 students graduate after receiving approximately 350 classroom hours, 16 of which relate to LIC/SOF.[23/24] This represents 4.5% of the total. The items covered are comprehensive and background material is printed in a handbook entitled "Case Study: The Role of Airpower in Low Intensity Conflict".[25] Lessons are taught on revolutionary warfare, Soviet sponsored "wars of liberation", terrorism, LIC in the future, and the role of airpower. The associate programs graduate about 1300 each year after completing correspondence or

seminar programs.[26] Both non-resident courses use the same texts, only one of which directly relates to LIC/SOF and it represents 2.5% of the program total.[27]

USAF Special Operations School

The Air Force school specializing in the topics germane to Low Intensity Conflict grew from separate initiatives in the early days of the Southeast Asia conflict. The Special Air Warfare School opened its doors on 15 April 1967 after courses offered by the Air University and the Air Ground Operations School (AGOS) were combined as part of the Air Force Special Operations course. The original Counterinsurgency and Southeast Asia Orientation Courses have evolved and grown into the Special Operations School course offerings shown here.

SPECIAL OPERATIONS DIVISION

Counterinsurgency
Joint Psychological Operations
Unconventional Warfare
Dynamics of International Terrorism
Joint Special Operations Planning

INTERNATIONAL SECURITY DIVISION

Latin American Orientation

Middle East Orientation

Cross Cultural Communication

Crisis Response Management

In general, International Security Division courses prepare students for duties in contact with foreign nationals, a very important aspect of LIC when one considers that Foreign Military Sales (FMS) representatives, and Mobile Training Teams (MTT) are often our military front lines in friendly countries fighting subversion. The Crisis Response Management (CRM) workshop is quite different in that it provides senior U.S. decision makers and their staffs an opportunity to review the principles and techniques of identifying a developing crisis, planning for and then managing an appropriate response.

Special Operations Division courses are oriented towards the hostilities involved in LIC. Individually, they address major missions identified in the Air Force Special Operations definition: Unconventional Warfare, Counterinsurgency, Psychological Operations, Terrorism and planning for special operations missions.[28] Students receive a minimum of 35 classroom hours during each five day course. The material presented is continually updated and knowledgeable guest speakers are regularly invited to lecture. Together, the International Security and Special Operations Division reach more than 2,400 regular students at the school and some 5,500 special tutorial students each year.[29] Not all of these students are Air Force

members. Some courses contain a high percentage students from the other military services and U.S. Government civilians. This student mix highlights the absolute joint nature of conducting Special Operations in the LIC environment.

THE TREATMENT OF LIC IN USAF FORMAL SCHOOLS

This cursory inspection of USAF formal schools indicates that quite naturally they focus on fundamental issues of officership, the national and international environment, and on where the U.S. Air Force fits in the whole picture. How the Air Force fits in is presented in a decidedly traditional way in most cases. Special Operations is one of seven fundamental missions identified in Air force Manual 1-1, Basic Aerospace doctrine, yet the numbers shown in the previous section indicate that a very small fraction of formal school course time is devoted to its many aspects. Certainly, treatment of the international scene and particularly regional and country studies are important to understanding the LIC environment, yet the treatment observed seems to be cast in terms of conventional military capabilities and strategic economic links. In this regard, it is interesting to note that Air force doctrine for the employment of airpower calls on commanders to "...control the aerospace environment and neutralize or destroy the warfighting potential of an enemy".[30] Those broad objectives are appropriate for a conventional or strategic conflict in Europe and they were carried out to a large extent in Vietnam. Unfortunately, the nature of the war there

neutralized our superiority. Third World conflicts demand non-traditional employment doctrine. A paper by Andrew F. Krepinevich of the U.S. Military Academy speculated that the U.S. Army has evolved a "concept" of how wars should be fought.[31] In the late 50's and early 60's conventional Army thinkers resisted a movement towards adapting to the special challenges of Soviet sponsored "wars of national liberation". In fact, it appears that mere lip service was paid to Executive directions to prepare for this new kind of warfare and our nation eventually found itself in a war for the hearts and minds of people fighting with artillery, tanks, strategic bombers, chemical defoliants and napalm. Basic aerospace doctrine and formal school curricula indicate that the Air Force may be susceptible to a similar entrenched "concept" based on what has been done and what can be done well, rather than on what must be done. As a final word on this, it is interesting to note that AFM 1-1,Basic Aerospace Doctrine, states that "Special Operations objectives are to influence the accomplishment of strategic or tactical objectives...", and that "Virtually all aerospace forces have the potential for employment in special operations".

The emphasis in Air Force education is on strategic and conventional employment, but there is coverage of LIC-related topics, indeed the Air War college handout for instructional period 1330 is titled "Case Study: The Role of Airpower in Low Intensity Conflict". Portions of several schools are excellent in their treatment of Special Operations Forces reflecting the

insight and hard work of individual faculty members. Topics which would be considered LIC-related; National Security Policy, the threat to US interests in the Third World, and U.S. military doctrine and equipment for meeting the LIC challenge, are found piecemeal throughout the course material examined. What is lacking is an overall treatment of Low Intensity Conflict from the top down and the conviction that LIC is a war for the heart and mind of the Third World. The role of airpower worked out in World War II remains the basic doctrine of the U.S. Air Force and the formal schools reflect that fact. The failure of massive conventional arms to win the war in Southeast Asia and the inability of U.S. forces to prevent the Soviet occupation of Afghanistan show clearly that in the Third World a coordinated effort to defeat the encroachment of hostile ideologies is needed.

Airpower will be an important element of success in the "Third World" war. U.S. Air Force doctrine and the lessons taught in USAF formal schools must reflect appropriate doctrine and employment particularly in the commissioning programs. All the services do their new officers a disservice by not preparing them for the conflict they are most likely to face. Air Force educators must take the lead in translating the lessons of history and today's national security needs into doctrine, tactics and equipment to win in Low Intensity Conflict.

Air Force educators contacted in preparing this piece were eager to address the role of air power in Low Intensity Conflict, yet it appeared that each was working on local implementation of educational goals having limited formal contact with other educators for coordination or update of material. This seemed especially true for the commissioning sources. The lead taken by the Center for Aerospace Doctrine, Research and Education in addressing the airpower requirements of LIC is an excellent first step which should logically lead to more. It is worth noting that the U.S. Army Command and General Staff College (CGSC) is establishing a Low Intensity Conflict Network, "LICNET", using minicomputers and word processors at Army and other U.S. military locations around the world.[32] The new network will function somewhat like a bulletin board for the exchange of unclassified questions and responses concerning the development of LIC doctrine. The Army has tasked the CGSC to develop its LIC doctrine and the establishment of LICNET promises a free flow of ideas needed to quickly formulate and test LIC doctrine. It is a step which should be considered by Air Force educators.

RECOMMENDATIONS:

This review has identified some areas where Air Force educators could lead the way in dealing with the airpower requirements for Low intensity conflict, but any recommendations for action should be predicated on clearly stated national policy objectives. A national policy is necessary, for without it the services must

establish their own goals based on a wide range of available literature and their individual interpretations of current policy. Furthermore, LIC is not an exclusively military problem. A national policy must place the military aspect in context with economic and political goals. Nonetheless, certain recommendations may be made.

ESTABLISH EDUCATIONAL GOALS

Air Force educators must establish clear educational goals preferably based on national policy and supporting military service doctrine. Current Air force doctrine treats the employment of Special Operations forces primarily as a part of conventional wars. Conferences such as the Air University, CADRE sponsored Airpower Symposium provide a much needed forum for examining ideas and concepts which will evolve into doctrine and policy. Conceivably the products of such conferences will also affect the development of national policy. Air Force educators and line assigned officers should take the cue from the CADRE Symposium to develop a model of how the Air force would best meet the LIC challenge. That model could then be used to define the educational objectives which would implement the model.

ESTABLISH REGULAR COMMUNICATIONS

Air Force educators are eager to meet the needs of future conflict and their efforts must be bound together in an effective

whole. Opportunities for crosstalk are needed to stimulate doctrinal development, exchange practical information, and to develop up-to-date curricula. The Army LICNET is certainly a move in this direction and Air Force units should participate. Other possibilities for regular contact include curriculum conferences, an AFSOF newsletter, and attendance of LIC/SOF related classes by other educators.

IMPLEMENT CURRICULUM CHANGES

The educational goals identified to meet National Policy objectives must be developed quickly into concrete classroom materials ready to be inserted in the curricula of all Air force schools, particularly the commissioning sources, because these students represent the entire officer corps of the future. Educators versed in LIC must participate in curriculum reviews to ensure inclusion of appropriate material at all levels. Finally, professional military journals should be used to share the latest doctrinal and tactical developments with the entire military community. This is particularly important in light of the results of this review which show that Air Force officers receive minimal exposure to LIC concepts in formal schools.

CONCLUSION

The curricula in Air Force formal schools reflect a traditional mix of conventional and strategic doctrine with its roots in the

plains of Europe, growing from seeds planted in the successful Allied conclusion of World War II. After the war, the lessons learned by special operations units in the European and China-Burma-India theaters were quickly set aside while the lessons of strategic bombing, air superiority, close air support, and airlift have become dogma. Treatment of Low Intensity Conflict and the special military units best able to engage in it will likely remain piecemeal until educators and knowledgeable commanders give it a proper place alongside conventional warfare.

The establishment of regular communications among educators and concerned organizations should have top priority in order to establish a common agenda and to begin pursuing common goals. A communications system such as LICNET would be a positive step in this direction, but in any case, those concerned should be identified and begin communicating. The serious nature of the threat at the low end of the conflict spectrum demands action on many fronts: political, economic and military. The role of airpower is important to the military aspect of LIC, and those concerned with doctrine and employment of airpower must step forward to insure their logical, effective use is taught in Air Force formal schools.

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THE USE OF MILITARY POWER AND DIPLOMACY SHORT OF WAR

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In Search of a Definition of Low Intensity Conflict

What has compelled us to define the term "low intensity conflict"? A variety of reasons exist, but the most apparent reason is the nature of conflict we have observed since World War II. The cost of conventional and nuclear wars between the two superpowers has deterred such war in Europe and East Asia, but has resulted in a more indirect use of force in other areas of the world. In Conflict in the Twentieth Century, David Wood listed 80 conflicts which occurred between 1945 and 1967. Of these, 52 were insurgencies, guerrilla contests, coup d'etats, or civil wars. Only 28 took the form of fighting between the armed forces of two or more states. Since 1967, 32 countries have experienced some form of guerrilla warfare or insurgency.[1] During the first three years of the 1980's, international terrorism has increased at an annual rate of approximately 30 percent--twice the rate of increase in the 1970's.[2] Additionally, the United States has used its military forces for political purposes some 262 times between 1945 and 1982.[3] The challenges of U.S. interests have become more ambiguous, and for most Americans, the distinction between war and peace in the world is rapidly deteriorating. Thus, with the use of force

without war an everyday occurrence for the U.S. in the international political environment, all those concerned with national security are wrestling with the problem of how to deal with it.

Soviet involvement at the lower end of the spectrum of war has also been a compelling reason for our recent examination of the nature of this conflict. Soviet military support to such nations as Cuba, Syria, South Yemen, Nicaragua, and Libya is evidence of the fact the Soviet Union does play an important role, at least indirectly, in the conflicts prosecuted by these nations.

The frustration which has resulted from our inability to understand the use of force short of war has also compelled us to search for a definition. World peace is an American myth which resulted from our geographical isolation prior to World War II. The attitude of most Americans reflects the pre-World War II isolation, and their view of conflict is incompatible with that conflict which actually occurs in world affairs. The use of force without war has always been a fact of life for those nations active in international politics. This environment in which the use of force and diplomacy are a daily occurrence is relatively new to the U.S. because it is no longer geographically isolated. The economy and security of the U.S. have become interdependent with those of other nations, and the U.S. is very much an active participant in international politics.

Because of the magnitude of the threat of conventional and nuclear war, U.S. forces have been designed and equipped to deter and, if necessary, wage these types of war. The attitudes of most of the members of the U.S. military are, therefore, oriented toward the upper two-thirds of the spectrum of conflict.

A frustration has also resulted from our failure to learn from our experience in Vietnam. We turned our backs in bitterness on this chapter in history which has lessons applicable to the use of force in both war and diplomacy.

Another reason which compels us to define the term low intensity conflict is the struggle for roles, missions, and, subsequently, budgets among the services. Although not always apparent to most, it is a major compellant.

These reasons have compelled us to define a term which has been applied to the spectrum of conflict lying between normal diplomacy and conventional war. However, the term low intensity conflict defies definition as evidenced by the fact that over a dozen different definitions have been offered by a variety of agencies.[4] It is difficult to define a term which encompasses such actions as terrorism, counterinsurgency, insurgency, covert operations, paramilitary operations, guerrilla warfare, demonstrations, presence, and peacekeeping. Participation in these actions may range from a handful of individuals, as is the case with terrorism, to a massive number of conventional forces, as was the case in Vietnam. Because of the increasing possibility of nuclear terrorism, it may also include the use of nuclear weapons.

The problem with defining the term low intensity conflict is that the intensity can be measured in a number of ways. Depending on the situation, these variables might be:

- The lethality of weapons systems employed, e.g., numbers of rounds fired or only non-nuclear weapons.
- The number of people involved or the size of the force.
- The amount of death and destruction, e.g., body counts.
- The duration of the conflict.
- The rate at which resources are expended.
- The cost of resources expended.
- The public's perception of all the above.

Perspective also compounds the problem of defining low intensity conflict. The intensity of the conflict will differ in the eye of the beholder because of such variables as proximity to the conflict, degree of involvement, and degree of commitment. While the conflict in El Salvador may be considered low intensity conflict to the casual observer in the United States, it may be perceived as high intensity conflict to a resident of San Miguel, El Salvador.

No utility can be derived from defining the intensity of conflict. Preoccupation with only the means of conflict tends to obscure its real purpose of it; the political objective. The tendency with the term "low intensity conflict" is to lump a variety of actions under one term without regard for their purpose. Greater benefit can be derived from defining the purpose of conflict; for force must always be guided by purpose.

The Political-Military Relationship

The real issue at hand is how does the U.S. use military power in diplomatic efforts short of war. Most Americans tend to think that diplomacy and the use of power are two distinct alternatives in international politics. This fundamental misunderstanding of the use of power and diplomacy is indicative of our geographically isolated attitudes. The two must go together or very little will be accomplished. When diplomatic efforts (and other measures such as economics) fail to attain those aims sought by a government, military power should be used in a manner appropriate to the objective, and if the stakes justify it. Upon accomplishment of the aim, diplomatic efforts resume.

It is imperative that a nation be able to use its military power effectively in diplomatic efforts short of war. For, the assessment of a nation's power in the international community is based on its ability to successfully wage a variety of conflicts to include nuclear war, conventional war, and diplomatic efforts short of war. It is possible for a nation's power to be highly respected for its ability to conduct nuclear and conventional wars but be considered deficient because of its ability to effectively use force and diplomacy in conflicts short of war. At the same time, the opposite is true. A nation such as Cuba, although extremely weak with regard to its abilities in nuclear and conventional war, has enhanced its national power because of its ability to use military power and diplomacy short of war.

Unless a nation is to have the status of Switzerland or San Marino, it must master the art of using power and diplomacy.

The problem of how to effectively use power and diplomacy has become increasingly acute for the U.S.. The U.S. no longer possesses the military superiority it once enjoyed thoughout the world, and the interdependence of its economy and security with those of other nations has made the U.S. more vulnerable in the international community. No longer is there a margin for error in foreign policy, and policy failure has greater consequence than ever before.

How then does the U.S. master the use of military power and diplomacy short of war? It requires an understanding of the sometimes complex political-military relationship in conflict. The greatest responsibility in conflict rests with political leadership. It must not only determine when it will use military power in a conflict, but it must also set clear political objectives to guide the military. These political objectives should be based on a national strategy, often referred to as a grand strategy. As basic as this Clausewitzian principle sounds, it has not always been adhered to. In a national strategy review conducted in the 1970's, the National Security Council (NSC) offered a variety of military force aggregations for Presidential consideration while confessing governmental inability to agree upon fundamental national objectives.[5] Failure to determine a coherent national strategy not only has long-term consequences for a nation but

also causes an oscillating effect in foreign policy. It tends to be more reactive in nature than active. When conflict in international politics occurs, it becomes difficult to determine political objectives for the conflict without a national strategy. Such was the case in Vietnam as evidenced by the question asked by most Americans in the late 1960's, "Why are we in Vietnam?". Structural weaknesses in the NSC and the decline of the policy planning staff at the State Department during the Eisenhower and Kennedy years resulted in the erosion of comprehensive, integrated, long-term policy planning. "Flexible response" became the guideline in international affairs, and the long-term view was given less consideration. Vietnam was never a part of a well-designed national strategy. As Robert McNamara and Dean Rusk stated, the purpose of the United States in Vietnam was to stop the advance of communism in Southeast Asia.[6] While it certainly was a moral purpose, it was nevertheless not part of a coherent national strategy based on well-assessed national interests. Additionally, the political objective of Vietnam, if not ambiguous to most Americans, held little significance. Thus, the paramount importance of a well-defined political objective in conflict has, in many cases, been paid lip service.

It is the nature of the political objective which determines the intensity of the conflict. The more important the political objective is to a nation, the greater the military effort given to accomplishing the objective. At some indefinable point on

the scale of increasing importance, a nation will determine it necessary to dedicate its resources to war. This point, of course, is relative for each nation. As the political objective in conflict increases in magnitude, it becomes easier for military leadership to adopt strategic military objectives which support this political objective. In any war, these strategic military objectives are usually related to the destruction of enemy forces and the occupation of enemy territory. Another prerequisite that must be accomplished before the political objective can be achieved is the breaking of the enemy's will to resist. It can be accomplished by military means, but the objective is somewhat political in nature. The subordination of a nation's will to another's is inherent in every conflict.[7]

World War II, which is most Americans' view of war, illustrates the correlation between the magnitude of the political objective and the intensity of military means. The political objectives of this war reflect those of the greatest magnitude; the Axis powers sought the conquest of nations while the Allies sought to stop this conquest by totally defeating Japan and Germany. The strategic military objectives of each side were equal in magnitude to the political objective and supported the achievement. Both sides sought the destruction of enemy forces and the occupation of enemy terrain. If these two strategic military objectives could be accomplished, it was assumed that the erosion of the enemy's will to resist would follow.

The other extreme of this correlation is true. As a nation's political objectives in conflict lessen in importance the intensity of the military effort tends to decrease. Clausewitz advanced this thought in his book On War. He stated:

> . . . the less intense the motives, the less will the military element's natural tendency to violence coincide with political directives. As a result, war will be driven further from its natural course, the political objective will be more and more at variance with the aim of ideal war, and the conflict will seem increasingly political in character.[8]

Minor political objectives in conflict do not stir the emotions of men. If a political objective in conflict appears to be insignificant, members of a military and the citizens of a nation tend to be less committed. The fear of failing is lessened because the consequences of failure are not readily apparent. The emotions of the public and the military must therefore be stimulated.

Additionally, as the political objectives in conflict become limited, it becomes increasingly difficult for military leadership to adopt strategic military objectives to support them. In some cases, it may not be possible to select strategic military objectives which would support the accomplishment of a limited political objective. The best example of such a case is the use of military presence in conjunction with diplomacy. In 1978, Idi Amin publicly threatened to stop the departure of 300 American citizens from Uganda. The U.S. objective in this

conflict was to influence Idi Amin to release the detained Americans; a relatively limited political objective. A U.S. naval task force was ordered to a station off the coast of East Africa.[9] The mere implication that force might be used caused Idi Amin to release the detained Americans. No strategic military objectives were sought in this conflict, and it was only the threat of military force which resulted in the political objective being accomplished. What is important to note is that force was used to influence political leadership. It is easy to understand that strategic military objectives were not applicable in this case. However, in other cases where limited political objectives are sought, it may be necessary to adopt miliary objectives or missions which have greater political significance than they do military. In such cases, political leadership not only has the responsibility for determining clearly defined political objectives, but it may also have the responsibilty for determining military objectives or missions.

When military power is used in diplomatic efforts short of war, it is a very fine instrument of the political leader. Only limited political objectives are sought, and the use of force has greater political significance than military. While strategic military objectives may or may not be applicable, the use of military power in diplomacy is generally designed to influence the will of a nation or its leadership. Those who use military power in diplomacy must, therefore, be the masters of nuance.

Military power in diplomacy may be used to influence the will of a nation as related to the following political objectives:

- Modification of an opposing nation's policies.
- Political reinforcement of a government threatened externally or from within.
- Maintenance or establishment of a balance of power.
- Maintenance of peace.

Exceptions to this generality do exist. Military force used in diplomacy may be used to achieve more tangible objectives such as the protection and/or extraction of U.S. nationals abroad and humanitarian assistance. These are not as common as the first and their necessity is evident. However, a good deal of political significance is attached to objectives of this nature.

A variety of military actions may be used to influence an opposing nation's will with regard to these political objectives. Actions such as presence, peacekeeping, demonstrations, paramilitary operations, terrorism, and insurgency have a certain impact on the will of nations. It is interesting to note how these actions have been used by nations to pursue foreign policy objectives. In Nicaragua, the U.S. has supported the Contra insurgency as a means of changing that nation's will with regard to its policies in El Salvador. In Lebanon, the terrorist bombing of the Marine barracks was not merely intended to cause attrition among opposing forces, but rather to

influence U.S. national will to withdraw its forces. It should be emphasized that while these actions were used to accomplish foreign policy objectives, the same types of actions may be used in war. The problem with categorizing these actions under the term "low intensity conflict" is that the term implies something short of war, which is not always the case.

Terrorism and Insurgency as Instruments of Diplomacy and War

Of all the actions which may be used as instruments either in diplomacy or war, it is terrorism which has caused the greatest concern among U.S. policymakers. While terrorism has been used throughout history, its effects have become more pronounced as the result of advances in technology. Not only have the weapons available to the terrorist become more lethal, but societies have also become more vulnerable. The fragility of extremely technical infrastructures makes dependent societies much more susceptible to the effects of terrorism. This vulnerability provides weaker nations with a greater advantage when using terrorism. It is cheap, low risk action which often proves effective for those sponsoring nations. It has enabled nations to achieve political objectives beyond their capability by other means, such as normal political process or more conventional warfare. Terrorism is not only a cheap option for weak nations, but also it is an effective and often unattributable action for stronger nations. By using surrogates, the nation sponsoring terrorism runs no risk to prestige, little

risk of retaliation, and virtually no risk of escalation. As long as the connection between the sponsoring nation and the surrogate cannot be proven, the sponsor is insulated from the cost of the act.

Terrorism has the greatest potential for eroding a nation's will and disrupting its social order. Ruthless acts of violence designed to induce fear among the innocent, result in a loss of confidence in the government's ability to protect the good order of society. No matter what the outcome of a terrorist attack, it is the fact that a terrorist attack occurred that implies failure of the government to protect society. Survival of the terrorist is victory in itself.

It must be recognized that terrorism is being used not only as an instrument of a nation's foreign policy by which it can accomplish limited political objectives, but also as an important part of war. Its use in the latter case is particularly evident in wars of national conquest in the Third World. Terrorism in societies of these nations, in some cases, has a more devastating effect than in more modern societies. In these environments, terrorism may be used to initially weaken the will of a nation prior to the accomplishment of strategic military objectives.

It can be said that terrorism is psychological warfare waged for the control of a desired audience. It is this targeted audience that serves as the power base. As terrorism seeks to destroy the credibility of a government's ability to protect its

citizens, it also seeks to gain support from its audience. The violent acts and threats of terrorism influence every sector of society exposed to them. Eric Hoffer in his book, The True Believer, discusses this type of influence. He states, "The decent, average people who do the nation's work are shaped and worked on by minorities at both ends--the best and the worst."[10] Those inferior elements who are failures, criminals, and malcontents, unfortunately influence society just as those superior individuals do with their contributions in politics, literature, and science. The two extremes affect the middle section. Those social misfits who are already part of this extreme of society, may be sympathic or even supportive of the terrorist and his cause. It is possible that they may even be inspired by his actions. The images of Robin Hood and Lawrence of Arabia conducting sneaking violence against authority have been lionized in legends. Their image appeals to the youth, particularly those individuals who are discontented. Ulrike Meinhoff, female leader of the Baader-Meinhoff, reflects this desire to inspire those individuals who are frustrated when she stated in an interview, "What we want to do and show is that armed confrontation is feasible--that it is possible to carry out actions where we win and not the other side."[11]

The nature and degree of influence varies with each sector of society. Those individuals who are the most intimidated by the actions of terrorists are those individuals who are in awe of their surroundings. These are usually the abject poor, newly

arrived immigrants, simple farmers, nomads whose lives are so precarious that it seems to them that they cannot control the circumstances of their existence. It is as if these individuals stand in awe of the world around them and because of their insecurity, they fear change. They have no hope for the future because they are too preoccupied with cold and hunger. Terrorism conducted in this sector of society has a traumatic and devastating effect on these people. If terrorism is able to continue in this sector of society, terrorists become the all powerful force in the lives of these people. Because of their lack of hope for the future, they are totally intimidated by terrorists and fear upsetting the forces that hold sway over their lives.

In El Salvador, left-wing guerrillas have directed their attacks against electrical towers and power generating facilities in an effort to destroy an already deteriorating economy. These tactics have made the rural population more susceptible to intimidation by the guerrillas. The loss of faith in the government's ability to protect its society results in a power vacuum which can be filled by any credible force promising hope for the future.

Those tactics which are specifically aimed at the destruction of an economy have the greatest effect on the social order. It is impossible for any sector of society to be unaffected by these tactics.

The question often arises: What is the distinction between a terrorist and a guerrilla? It is a matter of perspective--requiring a moral judgment. A terrorist in one country may be

considered a guerrilla to another. Nevertheless, a distinction can be made to some degree. A guerrilla is an extension of a military force which seeks to overthrow or defeat an existing government and its forces. He conducts sustained military operations against opposing forces. A terrorist is an individual who attempts to criminally intimidate the innocent for political purposes and is not capable of sustained operations against an opposing force. Many terrorists adopt the name of "guerrilla" to give themselves legitimacy. The term "urban guerrilla" has been used for such purposes. It was coined by a black terrorist group in the sixties in an attempt to legitimize its cause. In reality, the "urban guerrilla" is nothing more than a terrorist. The PLO, which has committed terrorist acts, attempted to adopt an increasing military profile for political purposes. Transitions of this nature result in a gray area between the terrorist and the guerrilla, particularly in an insurgency environment. The terrorist versus guerrilla dilemma may be readily seen throughout Central America. In El Salvador, the forces which make up the guerrilla coalition, the Armed Forces of National Resistance (FARN), the Popular Liberation Forces (FPL), and the Communist Party of El Salvador (PCES), were previously considered terrorist groups. In December of 1979, these organizations were unified in Havana, Cuba under the name of the Popular Revolutionary Party Army (ERP). A combined military command was established at the same time. Upon unification of these organizations, Cuba dramatically increased

its weapons shipments and training of the Salvadoran left-wing. The political status of these organizations changed as they became aligned with Cuba. The acceptance of the ERP by France and Mexico has made the distinction between terrorist and guerrilla even more difficult. The increasing military profile of the ERP has also developed its military capabilities. When does a terrorist group become a guerrilla force? It is difficult to determine. The degree of support a group receives from an outside power will not be known in most cases. It will be even more difficult to ascertain when a group becomes an extension of that outside power's military. What is confusing to many who live in a sophisticated political world is that terrorism has a total disregard for definitions and boun- daries. The element of terror still remains, however. Carlos Marighella stated "terrorism is an arm the revolutionary can never relinquish."[12] Terrorism is an action which can be used by any force. Greater emphasis should be focused on judging the action and its purpose rather than on fixing a label to a group or individuals.

Insurgency, like terrorism, may be used by an external nation as an instrument of foreign policy, as is the case with the U.S. support of the Contras in Nicaragua. However, it is difficult to control an insurgency when pursuing only limited political objectives. One of the reasons the U.S. supports the Contras is to change Nicaragua's policy in El Salvador. The Contras, however, seek the overthrow of the Nicaraguan government. The difference between political objectives often

creates a dilemma for the diplomat. It is much easier for an external nation to use an insurgency in a war of national conquest.

The key to solving an insurgency problem lies in changing the political environment which causes it. Once political change eliminates the causes, the insurgency can be expected to dissipate. In the event the insurgency is an instrument of an external power, one of two things can be expected to occur after successful elimination of the causes; the insurgency will denigrate into isolated terrorist groups, or the existing force will have to assume a more conventional or guerrilla character in order to continue.

It must be recognized that insurgency and terrorism will not totally defeat a nation. These actions will only weaken or destroy the will of a nation. The total defeat of a nation will require the accomplishment of strategic military objectives, specifically the destruction of that nation's military forces and the control of that nation's territory. While the insurgency in Nicaragua weakened public support for the Somozoa government prior to 1979, the total defeat of the government required the destruction of local Nicaraguan Nation Guard forces and the seizure of Managua.

Targeting National Will

To say that terrorism, insurgency, as well as a variety of other actions are something less than war is a serious mistake. Because of their potent effect on the will of a nation,

terrorism and insurgency have come to be used as instruments of war, as well as instruments of diplomacy. Failure to understand the use of such actions in war is the result of the inability to understand the importance of national will in war. U.S. thinking has difficulty understanding national will because it is an unquantifiable factor both in war and diplomacy. Because it cannot be measured, we often neglect the defense of our own nation's will and have difficulty targeting the will of an opponent nation.

As previously mentioned, U.S. political and military thought has generally assumed that if those strategic military objectives related to the destruction of forces and occupation of territory are accomplished in war, the will of an opposing nation will, as a result be negatively influenced. However, this process has been followed in reverse by those nations with much weaker military power. By initially using terrorism and insurgency, a militarily weak nation can destroy the will of an opposing nation and facilitate the later accomplishment of strategic military ojectives. By following this somewhat reversed process, a nation can economize its forces and accomplish much greater political objectives. Thus, North Vietnam, a primitive nation of only 19 million, was able to defeat a superpower of 200 million with regard to the conquest of South Vietnam. Terrorism, insurgency as well as conventional actions were used to weaken the will of both the U.S. and South Vietnam. Once this will was sufficiently weakened, North

Vietnam could destroy the forces remaining in the South and occupy the South's territory. Upon accomplishment of these requisite objectives, North Vietnam accomplished its political objective; the conquest of South Vietnam. North Vietnam's strategy for the war reflected the writings of Mao. It was he who said an inferior force waging a ruthless and protracted war must achieve political power before it can adapt itself to more regular warfare.[13]

While U.S. leadership perceived the conflict in Vietnam to be something less than war, the North Vietnamese committed themselves totally to war. The political objectives adopted by each side dictated the intensity with which each side conducted the conflict and thus accounts for the difference in commitments. By maintaining the sovereignty of South Vietnam, the U.S. sought to signal to the communist block nations that further advances of communism would not be tolerated. This political objective did not seek the elimination of the threat to South Vietnam and it limited the military effort accordingly. Essentially, the ground war was confined to the South, and the only strategic military objective sought was the destruction of enemy forces in this area. By contrast, the political objective of North Vietnam was of far greater magnitude. It sought the conquest of South Vietnam. Its military effort matched the magnitude of this political objective and sought the destruction of will, the destruction of enemy forces, and the occupation of enemy territory.

Was the Vietnam conflict a low intensity conflict? It was waged as one by the U.S.. However, for the North Vietnamese it was full-throated war.

Why then did the U.S. not wage the conflict as a war and take it into the North seeking those classic strategic military objectives associated with the destruction of enemy forces and the occupation of enemy territory? The reason is indicative of our desire to view certain wars as low intensity conflict. The introduction of nuclear weapons into the arsenals of the major postwar powers not only expanded the spectrum of war but also effected the political use of war, at least among those nations with nuclear weapons. Because of the costly nature of total war, nuclear nations could no longer adopt political objectives of great demand among themselves. Even if a nuclear nation considered the use of conventional war to accomplish political objectives with another nuclear nation, fear of escalation inhibit it. Valid or not, this fear of escalation was experienced by U.S. political leadership during the Vietnam conflict. Despite the fact that North Vietnam was not a nuclear power, it was its relationship with the Soviet Union and the People's Republic of China that gave rise to this fear. The political objectives of the United States in the Vietnam conflict therefore became limited largely because of this fear.[14] It is the fear of escalation which has caused us to view and wage war in a limited manner.

Failure in Vietnam has further compounded the problem of how the U.S. views and conducts conflict. Ten years after the fall of Vietnam, a "Vietnam paralysis" still afflicts U.S. public opinion. Public fear of another Vietnam has resulted in U.S. foreign policy being constrained. The dilemma that U.S. policy-makers face is that world stability depends upon some fifty security relationships maintained between the U.S. and other nations.[15] Public support for U.S. commitments may or may not be present when necessary. The greatest problem faced by U.S. political leadership is how to deal with the constraints of public opinion.

Policy Implications

When using military power either in war or diplomatic efforts short of war, the U.S. must be able to clearly determine its own political objectives as well as those of its opponent. The political objectives adopted must be in keeping with U.S. interests as defined in a national strategy. The responsibility for determining clear objectives and sound strategy rests with the National Security Council. This organization must be capable of effectively coordinating the policy efforts of both the State and Defense Departments as well as others.

U.S. political objectives should be evaluated against those of the opposing nation for the purpose of assessing the military effort necessary. It may be necessary to apply greater military effort when seeking a limited political objective of diminished signficance and the opposing nation is seeking objectives of

much greater magnitude. When used in diplomatic efforts short of war, the military must recognize that it is an instrument of foreign policy and accomplish the required objectives within the established parameters, with political sensitivity. Upon accomplishment of these objectives, the military activity will cease and diplomatic efforts will resume the initiative. In some cases, this cycle may repeat itself several times. In other cases, diplomatic effort and military action might occur simultaneously. However, no matter what the case the relationship between military and political leadership will be much closer and coordinated in diplomatic efforts short of war than perhaps in war itself.

Military leadership must consider what training, equipment, and organizations are necessary for its forces to participate in diplomatic efforts short of war, particularly when countering terrorism and insurgency. Effective military action in diplomatic efforts will require the military to be capable of protecting or attacking those targets which might influence national will. The military must also be capable of physically closing with and destroying opposing forces. While this statement might seem simplistic and understood, it is a greater requirement in diplomatic efforts short of war. In war, a military may rely on a wider array of supporting arms to destroy opposing forces. In diplomatic efforts short of war, it is difficult to use artillery and close air support to destroy the terrorist and insurgent. In most cases, the only way to do so

is to physically close with these forces. In diplomatic cases short of war, it may be necessary to employ military force in a more precise and surgical manner.

It should never be assumed that the use of terrorism, insurgency, as well as any other action is something less than war. These actions may very well be an important part of war and are used to weaken the will of a nation. Political leadership ensures the will of the nation is protected while prosecuting war. The solution to protecting a nation against the effects of terrorism and insurgency lies in mobilizing and galvanizing the national will.

Political leadership must contend with the greatest problems when using military power in diplomatic efforts short of war or in war. It is not so great a problem in diplomatic efforts of short duration as it is in protracted ones. Mobilizing and galvanizing national will in protracted efforts, both in war and short of war, will remain a difficult task for morally courageous political leadership.

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LOW INTENSITY CONFLICT: NEW ARTICULATION OF THE AIR FORCE MISSION

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LOW INTENSITY CONFLICT: NEW ARTICULATION OF THE AIR FORCE MISSION

I. The doctrine for employment of airpower in response to low intensity conflict has been neglected for almost 20 years. During that time, we have made great advances in the strategic and tactical arenas, making the threat of conventional war less likely. It is now time to focus on low intensity conflict and apply the same effort to insuring that the Air Force is ready to effectively employ airpower in the low intensity environment.

> For more than twenty-five years the countries of the Western Alliance have been preparing themselves against the dread possibility of a nuclear war with the Soviet Union. This war, which the strategists have called...The Third World War--has never come, and may never come. Meanwhile, the real Third World War has been fought and is being fought under our noses, and few people have noticed what was going on.[1]
>
> -Brian Crozier

Although low intensity conflict may seem like a minor threat to the Western democracies, particularly when viewed in the shadow of nuclear or conventional warfare, the potential for damage from low intensity conflict is anything but low. It can be as localized as the assassination of a minor local official, and as global as the mining of the Suez Canal. In any case, it can undermine the very fabric of those societies against which it is directed through subtle but very effective means. Because of the US Air Forces' high degree of preparedness to deter mid and high-intensity conflict, the probability of such conflicts remains relatively low. The probability of conflict at the low end of the spectrum, however, is very high and getting higher all the time. In recent years low intensity conflicts have, in fact, engulfed the US and many of its friends and allies in Latin America, Africa, Asia, and even Europe. We can ill afford to forget that the US is <u>currently</u> involved in several low intensity conflicts around the world-most notably in Central America--with which neither the nation nor the Air Force may be fully prepared to cope.[2]

The majority of these current low intensity conflicts are located in the developing nations of the Third World, where our national interests are being steadily eroded. One of the most dangerous aspects of these low level conflicts is their inherent insidiousness, which results in their not being perceived by the general public as threatening to one's well being or to the nation as a whole. Indeed, it is not readily apparent to the neophyte how several thousand guerrillas ensconced in the jungles of Central America could possibly pose a threat to the US.

How, then, do we actually define low intensity conflict? In truth, it is a very difficult task to come up with a comprehensive definition of low intensity conflict. For example, as we examine the conflict in El Salvador from different perspectives, we arrive at different characterizations. To the US, it is a low intensity, decentralized series of terrorist activities which pose no imminent danger to our people. Yet, to the Salvadorans it is indeed much, much more, a life and death struggle for their very survival as a nation. However, if one is to characterize the conflict, one must look at its nature rather than at the level of hostilities for each of the affected parties. Low intensity conflict is targeted toward the very fabric of society. These resultant attacks can be in the form of sanctions, hostile propaganda, boycotts, military assistance, terrorism, sabotage, seizure or destruction of key resources, assassinations, guerrilla operations, etc. The required response to these activities generally involves some sort of military reaction on the part of the target nation. However, defense against low intensity conflict must also include the essential ingredient of economic and diplomatic action if that defense is to be conducted effectively. Overt military action may deal with the symptoms--insurgency being only the tip of the iceberg--and may remedy the situation only for a time. Nevertheless, unless

the root causes of the insurgency are countered, the discontent will continue to smolder until the insurgency once again becomes a raging uncontrollable inferno. Low intensity conflict, therefore, requires a "cross-discipline approach which recognizes the interplay of social, economic, political, and military factors."[3]

Let us now return to the question of how several thousand guerrillas in Central America can pose a significant threat to the US. Historically, the overthrow of friendly governments by Marxist guerrillas have always resulted in the flight of thousands upon thousands of refugees. This has been clearly evident not only by the hundreds of thousands of Cuban refugees who have fled the island since 1959, but by similar number of refugees who fled South Vietnam since the North Vietnamese took over the southern part of that nation in 1975. The characteristic exodus happened after the Sandinista victory in Nicaragua in 1979--with a major difference. Refugees from Central America found that they could literally walk to the US and join the estimated million of illegal immigrants who had already crossed our southern border in previous years. The large influx of immigrants could well be destabilizing to the economies of our states in the Southwest, and more importantly, as these refugees move north, they tend to burden the economies of Honduras, Guatemala, and Mexico, thus destabilizing those governments to a much larger degree. As this happens, the conditions for insurrection are optimized, closer and closer to our southern border. The implications, in global terms, are ominous. The US has never defended its borders, however, the establishment of a Marxist state in Mexico or even the flight of thousands of refugees across the border could well result in the requirement to seal the border, something that could only be accomplished using high numbers of military forces. In addition to posse comitatus implications, such a requirement would necessitate either a large increase in the forces-in-being, or a redeployment

of our forces from Europe and/or Korea. Neither of these options is very attractive, or very realistic, especially to our allies overseas. The former solution, increased forces, would require large increases in the defense budget--which we can ill afford; the latter, redeployment, would alter the delicate balances of power which exist in those regions.

Central America is a critical region because of its strategic location, and because economically and militarily it is among the weaker areas of the hemisphere. Its proximity to vital sea lines of communication (SLOCs) truly makes the region our soft underbelly. A very large portion of our commercial trade and military traffic (particularly in the event of a conflict elsewhere in the world) must pass through these strategic SLOCs. Land-based aircraft in Cuba and Nicaragua could interdict these vital SLOCs.[4]

That, in a nutshell, explains how a few thousand guerrillas in the jungles of Central America could threaten the very foundations of US security. For our enemies, it is a low-risk approach--with a tremendous payoff.

> The history of failure in war can be summed up in two words. Too late. Too late in comprehending the deadly purpose of a potential enemy; too late in realizing the mortal danger; too late in preparedness, too late in uniting all possible forces for resistance; too late in standing with one's friends.[5]
>
> -General Douglas MacArthur

The initial US response in most situations involving low intensity conflict will probably be Security Assistance. This is in consonance with the Nixon Doctrine, which provides that the US will supply arms and assistance to nations threatened by aggression if they are willing to assume the primary responsibility for providing the manpower necessary for their defense.[6] Some Americans have a visceral aversion to having the US sell arms abroad. It is usually these same Americans that are even more strongly opposed to any use of US military force. It is ironic that they fail to recognize that by selling

arms to our friends that need them, we avoid direct US involvement later on. It is a fact, whether we like it or not, that most countries need arms, and the training to use them. Interestingly, the Soviets have been very successful since World War II with their version of the Nixon Doctrine.[7] In Vietnam, they helped their allies by providing a reliable supply of arms. They have done this throughout the world, furthering their interests through Security Assistance with no direct Soviet involvement (until Afghanistan). The Soviets have in fact advanced the state-of-the-art in Security Assistance by actually providing military manpower (usually Cuban) as part of their Security Assistance packages. Our own Security Assistance programs are hampered by the political realities that often accompany efforts to obtain aid for countries without strong domestic constituencies, and by self-imposed restrictions on US presence, such as the 55-man limit in El Salvador. While Security Assistance is a key element in combating low intensity conflict, the overwhelming majority of it is paid out to allies as rent for bases, or as incentives to lay aside enmity for a neighbor. Over 80% of US Security Assistance for FY85 is earmarked for the above reasons, leaving less than 20% to deal with low intensity conflict worldwide. Latin America is allocated approximately 3% of the total.[8]

A major problem with Security Assistance, particularly Air Force Security Assistance, is that the equipment developed for the US Air Force is usually too expensive for the recipient and not at all suited to the real needs of our friends and allies. For example, many countries in Latin America have acquired high technology fighter aircraft, such as the F-16, MIRAGE, Kfir, Jaguar, etc., which provide excellent capability against a conventional threat. However, the foremost immediate threat to the majority of these countries is of the low intensity variety, and in that arena we have little to offer. We found

out in Southeast Asia that slower, less-sophisticated aircraft, such as the C-47, B-26, T-28, A-1, etc., were much more effective against the guerrilla threat than the F-105s and F-4s. It is sad to note that we have not modernized our "low intensity conflict capability" since the late 1960s. And, no true, low-cost counterinsurgency (COIN) aircraft has been developed since the A-37. The latter is still very effective in the COIN role and is used extensively in Latin America. However, the A-37 is no longer in production, and thus only available when specific airframes become surplus to our requirements. Re-opening of the A-37 production line is prohibitive due to the high start-up costs involved. Another shortcoming in the Air Forces' ability to provide effective Security Assistance in the low intensity environment is the lack of a modern, fixed-wing aircraft smaller than the C-130. An airframe similar to the C-7 or C-123, neither of which are any longer in service with the USAF, would provide a greatly improved airlift capability to those friendly nations engaged in low intensity conflict. Such a special mission aircraft could also be used as an airborne platform to fulfill currently wanted programs in such mission areas as fire support, intelligence, and command and control. The C-130, although one of the most versatile airframes in the history of aviation, is just too big, too expensive, and too complicated for some of our allies to fly and maintain. The recent acquisition of the European Distribution System Aircraft could have been a great opportunity for us to acquire such an airframe. Once integrated into the USAF, the aircraft could have been provided to those countries with a requirement for a light transport. However, the Short's C-23 Sherpa, will not provide that capability in its present configuration, as it is not designed to operate from unimproved fields nor does it have a STOL capability. What is needed is a modern C-47. There are several such adequate aircraft in the world today, however, none is American-made. Thus, the USAF does not have an

appropriate airframe that could be provided through Security Assistance. It is fair to recognize that efforts in developing "export aircraft", such as the F-20, have not met with great success. This "failure to sell" is not for lack of support from the Air Force. It is based upon the erroneous perception on the part of potential customers, that these aircraft are apparently not good enough for use by the USAF. No amount of salesmanship seems to be enough to alter the failing F-20 market.

II. The war in Vietnam will undoubtedly prove to be one of the decisive wars of this century and, in its influence, more far reaching than any other war of its type... and its real effects are yet to come.[9]
-Sir Robert Thompson

Have we learned all the lessons of Vietnam, or have we concentrated on those salient points that are applicable only within the context of mid and high intensity conflict. We suspect the latter. USAF doctrine on special operations has remained virtually unchanged since the late 1960s. While the recently revised AFM 1-1 described special operations in terms of three inter-dependent missions, unconventional warfare, foreign internal defense (a new name for counterinsurgency), and psychological operations; little or no emphasis has been given to the last two missions for the last 20 years.[10] And even though the charter of special operations has been broadened to include counter-terrorist operations, collective security, interdiction, and counterair operations, the trend has continued away from foreign internal defense operations. It must be pointed out that, despite all this rhetoric, USAF's capability to conduct unconventional warfare is probably very good. We say probably because these operations are generally covert, and remain so if successfully carried out. Even with only a handful of H-53 and UH-1N helicopters, complemented by AC and MC-130 aircraft, our capability to project unconventional forces remains very good.

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But what about the other elements of the special operations mission? Sadly, the USAF had greater capability to conduct foreign internal defense and psychological operations in the early and mid-1960s, when over 100 mobile training teams were deployed to work in conjunction with military liaison officers throughout the world.[11] These teams assisted the host countries in developing their civil and military aviation capabilities by training pilots and support personnel, providing badly needed airlift of medical and civic action teams to remote areas, etc. These projects are designed to improve the living conditions of the people, gain popular support for the government, and reduce the appeal of the insurgents.[12]

In order to place the importance of aviation in low intensity conflict into perspective, we must point out that surface transportation throughout the Third World is limited. The only means of reaching the interior of most of the countries, and thus provide government services to the populace, is through air travel. This is a fact of life in practically every Third World nation. Yet the USAF has almost completely neglected its capability to provide assistance in this area. The early days of using aircraft which had simple systems and that could be maintained in an austere environment by fledging air forces are gone, but not forgotten. Those of us who represent the USAF in the Third World are often asked about the "good old days" when the USAF provided such assistance. It appears that we have abdicated this role to others. What is actually taking place is that many of these countries cannot do it alone, and have become breeding grounds for insurgencies, terrorism, drug running, etc. The saddest part is that things need not be that way.

III. There are initiatives that the USAF must underwrite to turn the tide and claim back its rightful place in the battle against low intensity conflict. The

following are but a few of the actions which should be taken as soon as possible. The USAF should:

- Include low intensity conflict as a major topic of research and study at all levels of Professional Military Education.

- Take steps to make our implementation of the Nixon Doctrine meaningful. In other words, if we are to provide the resources for our friends and allies to defend themselves, then we must have adequate equipment to provide, i.e., in a situation where a light, STOL transport aircraft is required, a C-130 may be inappropriate.

- Recognize the importance of foreign internal defense and psychological operations within the context of our overall defense posture.

- Recognize the idiosyncracies of dealing with the Third World. Relationships there are characterized by personalities and not by institutions. We must develop "area specialists". We must then make sure that we don't penalize them and jeopardize their effectiveness by not giving them a fair chance at promotion and increased responsbility.

- Recognize that we cannot recreate mini-USAFs in the Third World.

- Recognize that one of our strengths must be our ability to sometimes be "cost ineffective". Sometimes we should have a certain force structure that may not be the most appropriate for every day use, yet it may be the only one that will get the job done when the time comes. Remember Iran?

> National safety would be endangered by an Air Force whose doctrines and techniques are tied solely on the equipment and process of the movement...any Air Force which does not keep its...visions far ahead into the future, can only delude the nation into a false sense of security.[11]
>
> -General H.H. "Hap" Arnold

Our strategic and tactical forces have provided us with an extremely effective deterrent for almost 40 years. However, Soviet desires of world

domination still remain, and we can expect they will continue for a long time. The Soviet Union will continue to exploit every US weakness in its own favor. Our success in deterring conflict at the high end of the spectrum has made low intensity conflict a relatively attractive option. We must not neglect our strategic and tactical umbrella, but we must now focus on the low intensity threat in order to understand it and deter it as we have the others. We have a new articulation of the Air Force mission. Low intensity conflict is the warfare of the future. World War III is being fought, right now. Whether we like it or not...whether we are ready or not. We either fight it or we perish.

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LONG RANGE AIRPOWER IN LOW INTENSITY CONFLICT

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INTRODUCTION

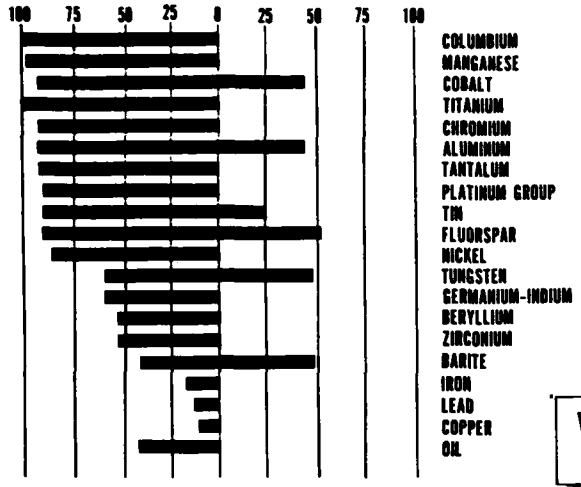
In spite of recurring nostalgia for autarky long past and possession of one of the world's two national economies of continental dimensions, the United States in the closing years of the twentieth century remains a maritime nation. Neither the promise of American technology nor the product of its agriculture can realize its full potential without unencumbered commercial relations with other states. Further, the notion of democracy compels a level of openness between those nations which are not committed to its demise. These observations compel the realization that the span of U.S. vital interests is global, and the pursuit of these interests inescapably involves us in the affairs of others around a world where "low intensity conflict" is an increasingly frequent form of warfare. The purpose of this paper is to explore the suitability of one category of U.S. military forces, long range attack aviation, as a vehicle for the pursuit of such conflict.

The selection of long range aviation as a type of military force to be considered for employment in low intensity conflict is encouraged by incontrovertible facts: long range airpower exists; it has the range potential to match the globe-spanning scope of U.S. vital interests; and it can destroy relevant targets with a speed and responsiveness which match the dynamic nature of the type of conflict we are challenged to influence.

This paper proposes to explore the question of long range airpower application in low level conflict by first gathering what we know about contemporary low level conflict, then refining our focus on U.S. patterns

U.S. DEPENDENCE ON ACCESS TO THE WORLD

CRITICAL MATERIALS



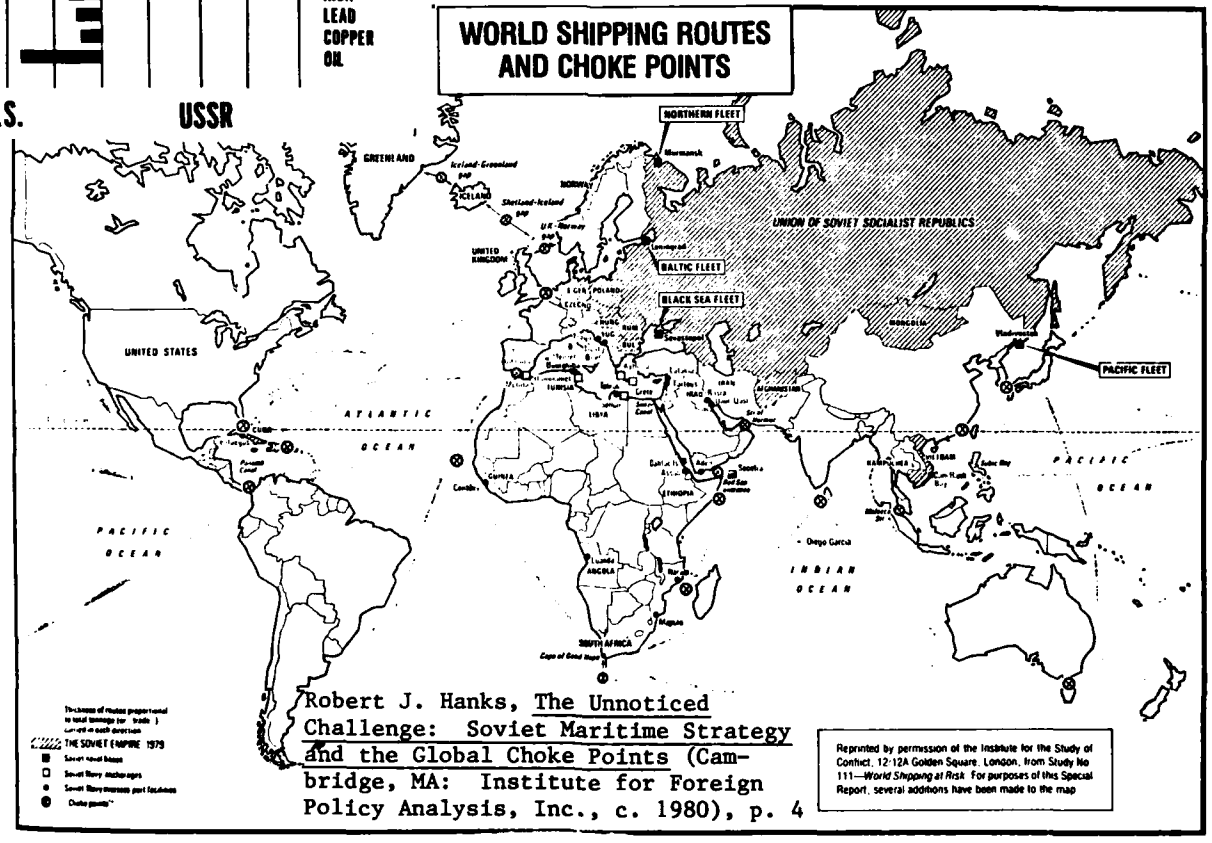
TRADE COMPARED TO GNP
1979/80 DATA

U.S.		USSR
$2.37 x 10^{12}	- GNP	- $1.39 x 10^{12}
$240 x 10^{9}	- Imports	- $68.4 x 10^{9}
$220 x 10^{9}	- Exports	- $76.4 x 10^{9}
±10%	- Imports/Exports / GNP	- ±5%
Diverse	- Partners	- Half with Communist Countries

- U.S. does three times trade of Soviets.
- Trade makes up twice the percentage of GNP of Soviet trade.

Gregory R. Copley, ed., Defense and Foreign Affairs Handbook (Washington: Defense and Foreign Affairs Ltd., 1983), pp. 656, 694, and 695.

Soviet Military Capabilities, HQ SAC, DCS Intelligence, July 1981.



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Graphic assembled by Mrs. Mary Roegge, HQ SAC/XPP

of involvement in such conflicts, examining what we know about long range airpower in order to more clearly identify its present and future characteristics before making a number of observations and conclusions.

CHARACTERISTICS OF LOW INTENSITY CONFLICT

A consistent pattern of events over the last half century enables us to paint a remarkably clear portrait of the low level conflict phenomenon as it challenges U.S. foreign policy today. However, in sketching the bounds of such a conflict type, we must caveat our efforts as in no way being restrictive but only descriptive in intent. We are attempting to portray the type of war we need to prepare to fight.

In a recent Yale Literary Magazine, Richard Dyson went so far as to describe this sort of conflict as a parlor game, "The Game of Guerrilla," with its own rules and a particular set of players. In this game, he sees the Soviet Union as the "Manipulator" who both controls the game and stands to win the most from what Dyson sees as until now inevitable victory. The United States is the "Dupe" who plays by the "Manipulator's" rules in efforts to protect a "Victim State" which is the prize. The "Staging Area States" are manipulator satellites close enough to the victim to furnish support to a "Revolutionary Front" which carries the flag in most of the anti-"Victim State" fighting and supposedly comes from within the "Victim State" population, at least to the degree necessary to maintain the aura of a "Domestic Front." The conflict is constrained within the borders of the "Victim State" and any effort by the "Dupe" to extend the fighting to the territory of a "Staging Area State" constitutes a violation of the rules causing the "Dupe" to be condemned by a "Chorus" made up of other minor powers of

the international community.[1] Dyson's stylized view of the conflict type we are dealing with here is all too representative of reality.

We are focusing our view on wars within the Third World which, for one or another "accident" of geography, attract superpower involvement. Our "Victim State" may be in possession of valuable resources; it may be in a strategically significant location itself; or it may be astride access to states which have such advantages. While Second and First World States may indeed be directly involved in low intensity conflict, the U.S. has characteristically kept its distance from such wars. We have seen such events as the violence in Northern Ireland as the internal problem of an ally and insurrectional rioting in Eastern Europe as just being too close to the Soviet superpower to be an acceptable locus of conflict involving the United States. The Cuban Missile Crisis may well mark a limiting case.

Wars are fought in the low intensity format for cause: one or more of the protagonists sees advantage in keeping the conflict at that level. Forces engaged in overthrowing a regime minimize and delay government reaction; they reduce the effectiveness of that reaction; they preserve the illusion that enables an international war to masquerade as a civil war; they minimize the flow of aid to the beleaguered government; and they reduce and manage the level of risk they themselves incur. The government under attack may even encourage the low intensity conflict tactic in order to preserve the appearance that it is still in control. The United States in its participation in

[1]Dyson, Richard "The Game of Guerrilla," The Yale Literary Magazine (Vol 150, #4, 1984), p. 76

low level conflict has also tended to resist escalation to higher conflict intensities in order to avoid criticism of direct involvement.

This tendency has significant interaction with the level of resource commitment to the conflict, and resource commitment, in turn, impacts ultimate resolution of the conflict or conflict prolongation. With low intensity warfare, resource demands are kept low enough that the resource bases of the combatants are not fully engaged, thereby precluding a decisive engagement. With resource demands low, the materiel smuggled by clandestine access by "Staging Area States" has greater relative impact on the course of battle. With low resource demands, the duration of the conflict tends to be long.

Duration of conflict, in turn, has its particular impact on participants of the conflict. Prolonged violence weakens the side most dependent upon the land and people of the region where the war is being fought. In most cases, this is the "Victim State" regime. Political drain on U.S. support is high, the tolerance of the American people for conflicts of long duration being low.

In low level conflict situations, legitimacy is the victim's cloak. The conflict begins with the government in possession of the cloak and the insurgents tugging at a corner of it. As time passes, the insurgent need only keep up the fight and he gains more and more of the cloak. With every passing day of demonstrated inability to bring to an end an insurgency, the government gives up more of its cloak. Success in battle can move the cloak one way or the other, but time's pull is inexorable.

Aid from without can help change the course of the conflict, but it too has a complex impact on the outcome of the war. External aid is the vehicle by which the "Manipulator State" can conduct international conflict by means of what is ostensibly civil strife. It is the means the U.S. can best support the "Victim State" government until actual involvement in the hostilities is merited. It is the source of advantage the guerrillas can count on over a "Victim State" government. But for all parties, aid has its costs. For the "Manipulator" and the U.S., those costs can be kept in a ledger and balanced against political gains seen in keeping up the fight. For the "Victim State" government, and to a certain degree for the guerrillas, the visibility of aid received can greatly reduce ability to retain a grip on the cloak of legitimacy either as a competent government or as a bona fide national revolutionary force. This function is not symmetrical on both sides of the conflict, but it does exist on both sides. Unfortunately for the United States, the "Victim State" government seems to be most vulnerable to charges that it is a puppet of the superpower attempting to help it survive.

These comments apply to insurrectional conflict through the steady state low intensity conflict phase. However, this kind of warfare also has a characteristic "end game" pattern which is crucial to our discussion and particularly to the utility of long range aviation. While one side or the other can gain advantage through low intensity conflict tactics, they cannot win and thereby end the war, by either defeating the guerrilla or completing the revolution, without, at some point, shifting to classic conventional warfare. Either the guerrillas have to feel strong enough to overcome the government's army and take

the key installations where government's power resides or the government has to strike out in major actions to destroy the guerrilla's supply bases and sources of strength within both "Victim State" and "Staging Area States." If the U.S. is determined to help a "Victim State" win and end the conflict, it will need to play a role in this phase of the conflict either by increasing support to sustain a shift to a higher conflict level on the part of the "Victim State" or by actually involving U.S. forces in the war.

Preparation for and timing of this shift to a potentially decisive level of warfare is crucial for the side that attempts it. A guerrilla force must have accumulated power and organized its conventional forces or, if defeated, it will suffer casualties, expenditure of resources and loss of legitimacy sufficient to set its cause back many years. Similarly, if the government's thrust is unsuccessful, its material losses coupled with even more slipping of the cloak of legitimacy could prove fatal.

The U.S., however, can claim the option to modify the rules of the game by virtue of its own potentially overwhelming military power. It can stand by and then rea t by blunting the guerrilla effort to shift tactics--decision wise a more demanding task. Or it can move the victim government's offensive forward in time by increasing aid and enlarging its scope through direct action of U.S. armed forces. While no observer should be so naive to think that such military actions could change underlying political or economic roots of the conflict that are truly domestic, this type of action could completely change the course of the low intensity war as an international conflict.

In low intensity conflict, the notion of limited versus total war is important. This model of warfare can be either limited or total with respect to either side. Victory, however, goes not to the strong; it goes to the side that recognizes first that only the level of engagement reflected in the concept of "total war" can "win" such a war and bring the level of hostilities down to an endurable level for the beseiged "Victim State" government or to an end for the guerrillas. While total engagement may not be enough to win militarily given unfavorable odds, total engagement is necessary to win politically. Given the commitment, though, on the part of the "Victim State," the United States possesses sufficient military power to enable the "Victim State" to effect the crucial shift in the level and nature of hostilities successfully and turn a sustained low intensity conflict into a sporadic guerrilla campaign if the U.S. power is applied in a massive and well focused manner intended for decisive impact on the insurgent forces and their support system and directed in accordance with the classic principles of war.

U.S. PATTERNS OF INVOLVEMENT

The United States, however, has developed a pattern of response to low intensity conflict. This pattern is created by the nature of the process by which the government of the United States characteristically makes the decision to employ military strength in support of foreign policy. It reflects the full gamut of political preferences and institutional biases far more than any theory of military strategy or tactics. In exploring U.S. involvement in low intensity warfare, one finds that the U.S. tends to look less for the best course of military action to

PRINCIPLES OF WAR

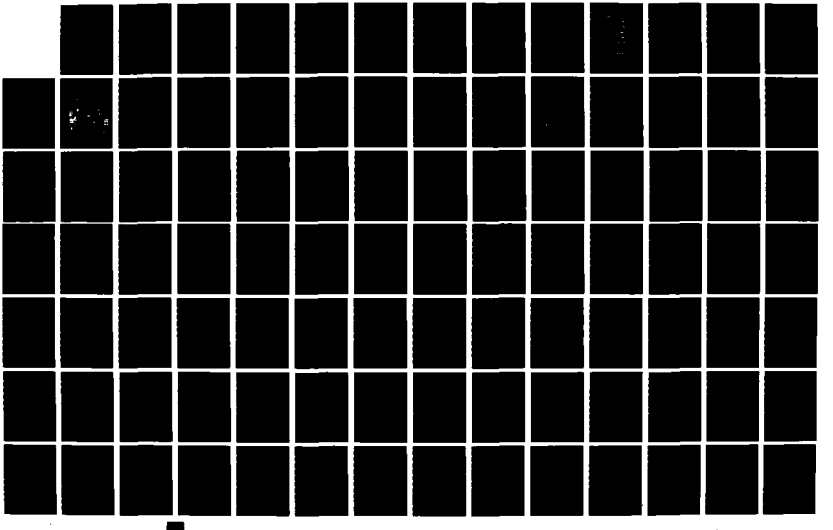
AIR FORCE AFM 1-1	SOVIET UNION	UNITED KINGDOM	FRANCE	GERMANY 1940	US WAR DEPARTMENT 1921	CLAUSEWITZ
OBJECTIVE	PLAN TO ACTUAL SITUATION	AIM/GOAL			OBJECTIVE	
OFFENSIVE	OFFENSIVE ON BROAD AXIS*	OFFENSIVE			OFFENSIVE	PURSUE SUCCESS
MASS	CONCENTRATION	CONCENTRATION	CONCENTRATION	SUPERIORITY OF FIREPOWER AND MATERIEL	MASS	CONCENTRATION OF POWER
ECONOMY OF FORCE		ECONOMY OF EFFORT			ECONOMY OF FORCE	USE FORCE WITH UTMOST ENERGY
SURPRISE	SURPRISE	SURPRISE	SURPRISE	SURPRISE	SURPRISE	
SECURITY		SECURITY			SECURITY	
UNITY OF EFFORT	COORDINATION/ INTERWORKING	COORDINATION			COORDINATION	
MANEUVER	COMBAT ACTIVENESS			SPEED	MOVEMENT	
SIMPLICITY		FREEDOM OF ACTION	SIMPLICITY		SIMPLICITY	
TIMING AND TEMPO	MOBILITY AND TEMPO		FLEXIBILITY			NEVER WASTE TIME
DEFENSIVE	PRESERVATION OF COMBAT EFFECTIVNESS	CONTROL OF THE REAR				
		MORALE				
	MASSIVE LOSS AND CONTAMI-NATION*					

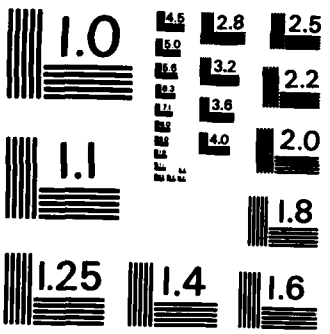
*FOR NUCLEAR CONFLICT ONLY

List assembled for the unpublished Air Warfare Chapter of the Air Force 2000 Study, HQ USAF, Feb 1982

AD-A158 847 PROCEEDINGS OF THE AIR POWER SYMPOSIUM ON THE ROLE OF AIRPOWER IN LOW INT..(U) AIR WAR COLL MAXWELL AFB AL A DODSON ET AL. MAY 85 3/5

UNCLASSIFIED F/G 15/7 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS - 1963 - A

defeat an enemy than to seek an approach which will accord with a highly complex hierarchy of domestic U.S. political needs.

As the government perceives the threat to U.S. vital interests inherent in a given low intensity conflict and gradually moves toward a decision to take action, the United States has tended to move through a sequence of incremental reactions to the threat. Material assistance comes first, usually favoring non-military aid with a subsequent drift toward greater and greater military content. When it becomes apparent that this aid is not employed in a telling fashion, or in a manner which reflects the U.S. style of warfare, advisors are sent to teach "Victim State" armed forces how to fight with our equipment the same way we would. When neither material aid nor advisors reverse the course of the conflict, the U.S. has reluctantly initiated direct participation in hostilities. It has done this gradually in a slow evolution of roles with a clear preference for air and naval participation in lieu of land combat. The overall tenor of this evolution is the acceptance of the level of conflict. This acceptance of low intensity conflict is not the product of a decision to pick the level of combat most likely to gain a favorable conflict outcome but simply the avoidance of externally obvious changes in the nature of the conflict which would telegraph the extent of U.S. involvement.

Decisive action has been undertaken in a small number of rather particular cases. In the Korean conflict, only a partially valid example since it was primarily a conventional war rather than low intensity conflict, the violence of the North Korean invasion compelled a decisive response by the U.S. In a pure low intensity context, the only recent cases of decisive U.S. action at the outset occurred when the scope of

the conflict and its focus were so limited that the bounds of the implied cost versus risk analysis were narrow and, if not so clearly to the advantage of the U.S. that the outcome was not in doubt, at least limited the risks involved to the forces committed. Mayaguez, the Iranian hostage rescue attempt and Grenada are three examples. American lives were at stake; while the risk of failure might have been considerable, the magnitude of potential losses could be calculated quite precisely. It was also evident that the decisive phase of the action could be completed before public opinion could be orchestrated into coherent opposition to the decision to act.

Given the domestic political environment of recent decades, the speed with which the U.S. can complete decisive military action and disengage American troops has proven to be a pivotal factor in deciding whether or not a course of action can be realistically pursued. The U.S. has indeed demonstrated a pattern of declining ability to sustain military action, however popular at the outset, longer than four or five years without suffering steady and even precipitous erosion of domestic support. Domestic pressures for disengagement soon overcome even the most compelling rationale for pursuing a conflict at the militarily appropriate level and persevering to a favorable conclusion. This observation has not been lost to our adversaries and is not the least important factor in securing for low intensity and, therefore long duration warfare, its major role in reshaping the world we live in today.

These observations leave the U.S. in a position where it is condemned to an unending series of confrontations in the form of conflicts it is ill prepared to fight and even less able to avoid because of the

global span of its vital interests. Once involved it is caught in the dilemma of fighting at the low intensity level where political will can be preserved for the moment but where the relative military advantage is lowest which, in turn, tends to produce a war of longer duration where that will is even more vulnerable.

In the face of this dilemma, the long range bomber holds out the potential for great utility. It has been used for a variety of crisis and conflict responses since World War II. To a degree, the potential of long range airpower was realized in the conventional employment of our B-52s during the war in Southeast Asia, but this experience was rife with contradictions. General Bruce K. Holloway, retired CINCSAC, alluded to these contradictions when he wrote: "... even though the B-52 was used miserably, it was nevertheless used extensively ..."[2] A brief review of B-52 employment in Southeast Asia is instructive.

The compelling military rationale for using B-52s in the Southeast Asia conflict was the need to apply heavy firepower to dispersed, difficult-to-locate targets precisely while at the same time avoiding risk or casualties among U.S. personnel. From the very first of the "Arc Light" operations on June 18, 1965, the utility of the heavy bomber weapon was militarily apparent. But, it must be noted that the public opinion reaction in the United States was negative. Early press coverage was critical of "insignificant results" seeing the effort to be

[2] "Strategic Airpower--A Look to the Future," a yet unpublished article submitted for publication in Armed Forces Journal International in August 1984

HISTORICAL EXAMPLES OF LONG RANGE AIRPOWER IN THEATER SUPPORT

DATES	SAC FORCES USED	SUPPORT PROVIDED
Nov - Dec 46	6 x B-29s	Flew Soviet European border for two weeks following shoot down of two C-47s
Jun - Aug 48	3 x B-29 Groups	Deployed to Germany and England during Berlin Blockade (remainder of SAC bombers on 24 hour alert)
Jul - Sep 50	4 x B-29 Groups	Strategic bombing offensive in Korean War
Jul 50 - Jul 53	2 x B-29 Groups	Tactical bombing in Korean War (OPCON to FEAF) 21,328 sorties, 167,000 tons of bombs
Nov 50 - Jul 53	1 x RB45 Strat Recce Sq	Strat/TAC recce ops in Korean War (OPCON to FEAF) 1,995 sorties
Jul 52 - Oct 52	3 x KB29 Tanker Sq	Deployment support for 133 x F84 to Korea
Nov 56 - Dec 56	3 x KC97 Tanker Task Forces	Contingency support prepositioned for Suez crisis
Oct 63	50 x KC135s	Deployment A/R for 71 TAC ftr and recce aircraft during "BIG LIFT"
Jun 64 - Aug 73	164 KC135s	A/R support in SEA 194,687 sorties, 1.4 billion gallons
Jun 65 - Aug 73	205 x B52 (C/D/F/G)	Bombing in SEA 124,532 sorties, 2,949,615 tons

Assembled by Lt Col Knox Bishop, HQ SAC/XPXS, from data provided by the Office of the Historian, Strategic Air Command

"swatting flies with a sledgehammer."[3] It was difficult to perceive guerrilla operations as being every bit the military threat that traditionally armed and constituted units could be.

As the war progressed, the broad utility of the B-52 strikes against a variety of targets could not be denied. Troops in tunnel complexes were a frequent target. Support of beseiged special forces camps was a specialty, as Con Thien in September 1967, Dak To in November 1967 and Ben Het from May to July of 1969 testify. The heavy bomber role in the defense of Khe Sanh from January 14, 1968, to March 31, 1968, turned a defensive covering action into an offensive campaign by virtue of the decimation of massed attacking forces. For three months three Marine regiments and South Vietnamese rangers were protected from two or more North Vietnamese Army divisions by heavy bomber operations which involved 461 missions, 2707 sorties and delivery of 75,631 tons of ordnance. During this period, the "Bugle Note" tactics enabled B-52s to keep a stream of aircraft airborne, thereby permitting strikes every three hours with target changes as late as two hours prior to target time.[4] Neither weather nor dark of night offered the enemy any protection.

The impact of B-52 strikes on the North Vietnamese Army was unique. The order of magnitude of casualties inflicted upon units which were effectively struck was reflected by one POW interview which attested to 75% of an 1800-man regiment killed by a single Arc Light strike.[5] Multiple, well concealed lines of logistical support were frequent Arc

[3]The United States Air Force in Southeast Asia: 1961-1973, Carl Berger ed., Office of Air Force History, Washington D.C., 1977, p. 149.
[4]Ibid, pp. 156, 157.
[5]Ibid, p. 157.

Light targets, causing the North Vietnamese to invest heavily in keeping supplies flowing and reducing the volume of support they could actually bring into the fighting in South Vietnam.

Throughout the Arc Light operations, targeting decisions were made at high levels in Washington. The inherent flexibility and responsiveness of long range airpower enabled mission execution even with this arrangement which would not have been possible for other types of forces. For the most part, national level guidance precluded strikes into the most militarily important regions of North Vietnam. It was only late in the war that strikes in North Vietnam were authorized, beginning in April 1972 with the attack on POL and railroad yards in Vinh. After a series of policy changes which saw new lines of permissible targets moving northward, B-52 operations in Vietnam reached their zenith when the North Vietnamese left the peace negotiations in Paris. The U.S. government responded with "Linebacker II," sustained B-52 strikes on strategic targets in the Hanoi and Haiphong areas. More than 700 sorties were flown against rail, ship, communications, warehouse, trans-shipment, POL and electrical power facilities.[6] These strikes into the most heavily defended area in Southeast Asia triggered the firing of over 1000 SAMs. While 15 B-52s were lost during "Linebacker II" out of a total of 29 such aircraft lost for all reasons during the entire war, the immediate political objective was attained when the North Vietnamese promptly returned to the bargaining table.[7]

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[6]Ibid, p. 166.

[7]B-52 losses of 29 aircraft represent attrition of 0.02% of the 126,615 B-52 sorties actually launched for a cumulative loss of approximately 6.7% of the existing B-52 fleet.

Of the 124,532 B-52 sorties which actually released bombs on target during the war in Southeast Asia, 55% of the weapons were dropped in South Vietnam, 27% in Laos, 12% in Cambodia and 6% in North Vietnam.[8] The majority of the B-52 strikes were thus targeted against the territory and among the people of the "Victim State," the ally we were trying to help. Next in order came the resilient and redundant trail networks through Laos and Cambodia, and finally only 6% of the B-52 dropped weapons were directed against the territory of the "Staging Area" state which sustained the war. And of that, less than two weeks worth of operations (18-29 December 1972 less twenty-four hours for the Christmas pause) were targeted against the most significant concentration of high priority targets which could have made a difference in the final outcome. It is worth repeating that the brief "Linebacker II" operations had the immediate effect of reversing the North Vietnamese decision to stop negotiating. The role of long range airpower in Southeast Asia thus provides incontrovertible evidence of the potential utility of such forces in low intensity conflict and further arms us with valuable insights, albeit largely from a negative aspect, into the way such forces need to be employed if their potential is to be realized.

LONG RANGE AIRPOWER CHARACTERISTICS

COMBAT RADIUS

It is far from a truism to observe that SAC's heavy bomber assets have range to match the global span of U.S. vital interests. It is a

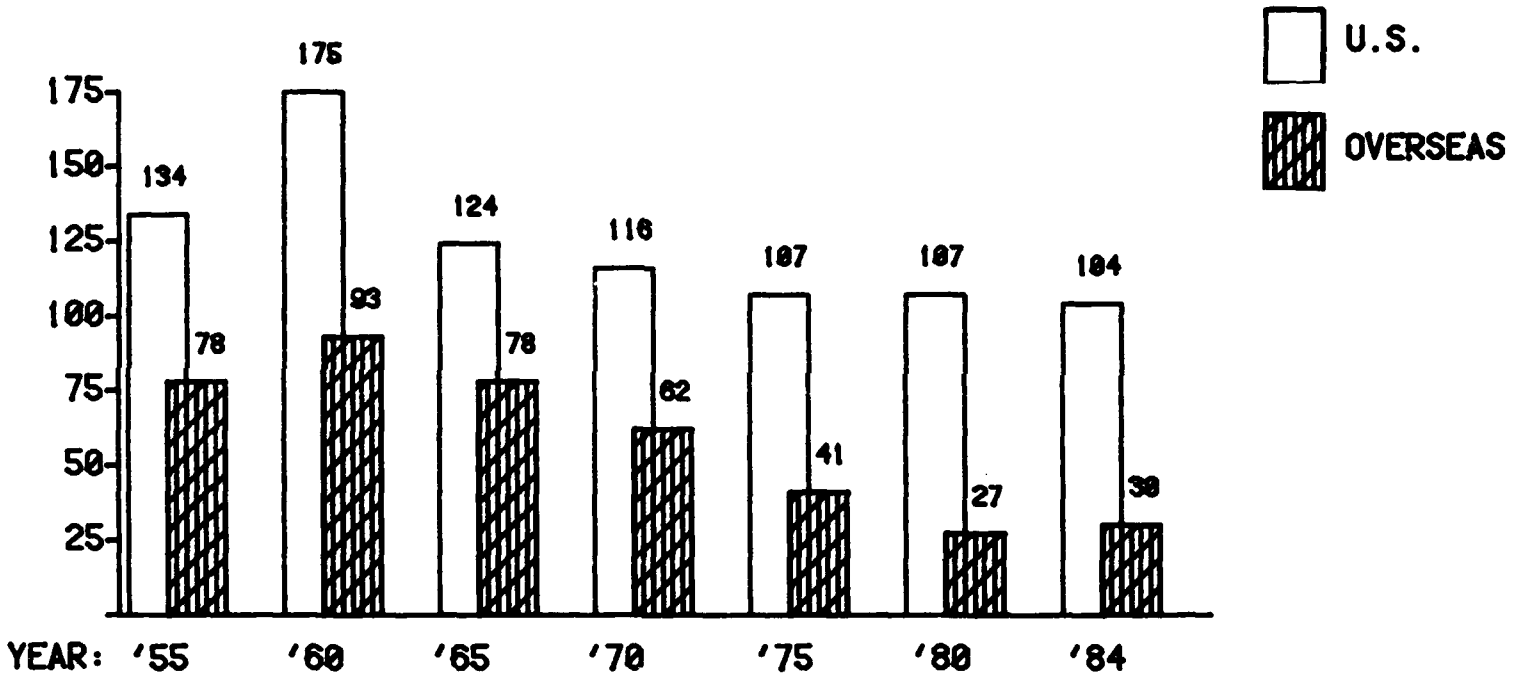
[8]Ibid, p. 167.

comment on the major qualitative difference between these weapons and other single theater, shorter range systems. The predicament that enmeshed the British in the Falkland Islands War presented even the most casual observer with a gripping example of the consequences when a nation allows its military reach to atrophy. Britain had long maintained a capable bomber force, but in the interest of economies, the decision was made which allowed maintenance of Vulcan air refueling subsystems and air refueling training of crews to be discontinued. The only air refueling aircraft maintained for other mission support were converted bombers of limited capacity. So when the British finally managed to reconstitute some long range capability, Vulcan operations could be only tenuously sustained, with anything but decisive results. So in spite of technology to do the job, Britain had to wait until it could assemble a flotilla and sail it to the South Atlantic before it could bring to bear effective fire from Harrier VTOL fighters and helicopters.

Access to areas plagued by low intensity warfare is an increasingly challenging problem. The number of U.S. overseas bases has fallen precipitously in the last two and a half decades. Overflight rights are more circumscribed than ever, as the last war in the Middle East made abundantly clear.

While essential for long range operations, air refueling is not a panacea. The United States has developed the technique far beyond any other nation and has built a force of tanker aircraft that exceeds the capacity of any other nation to keep its aircraft airborne. However, the requirement keeps increasing and we have allowed the growth of our capability to level off. Our refueling capability was bought to essentially match our strategic nuclear conflict needs. Today, almost all our combat and airlift aircraft can be refueled in flight. Deployment 195

MAJOR USAF BASES



Data for 1960 and before from Air Force Magazine;
From 1965 and later from USAF Summary, Change 1,
1 June 1983, HQ SAC/ACM, p.132 provided by
AF/PRPJ. Graphics by Capt Tony Waisanen, HQ SAC/XPX

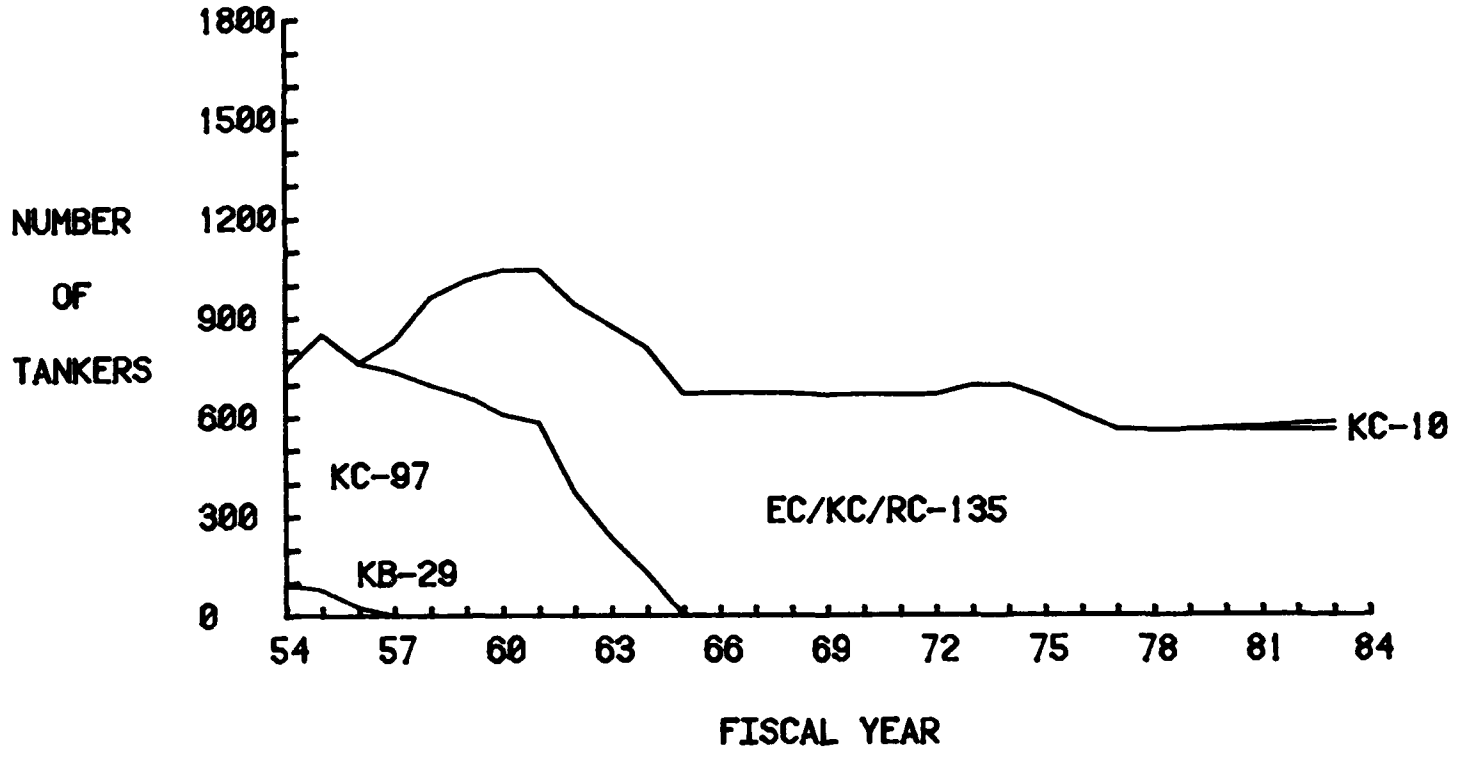
and employment plans require air refueling for successful execution, but there are simply not enough air refueling aircraft to go around. Some air refueling of even large bomber, reconnaissance and airlift aircraft is necessary to efficiently accomplish missions of global range. But, for short range aircraft--this includes all of the tactical air forces--almost any serious deployment or employment operations require massive air refueling support, often with forward staging of tankers. The new KC-10 tankers were designed to support a share of this burden, but their numbers are too small to cope with more than a fraction of the task. Consequently, the inherent range advantage of large aircraft has never been more important to U.S. security, particularly to effective operations in the low intensity context, than it is today.

In peacetime, it is difficult to grasp the full implication of this observation. But, one can look to the only day-to-day tactical mission we fly into low intensity conflict areas when the U.S. is not actually participating in the fighting: reconnaissance. The heavily air refueling dependent SR-71s and the large but still air refueled RC-135s are the mainstay of our reconnaissance effort. They perform a key role in which maximum range capability is important even in regions close to the borders of the United States. Another source of insight was the brief, compact action in Grenada. As close as it was to the United States, it required 123 Strategic Air Command air refueling sorties.[9]

Forward basing into a theater of low intensity warfare remains an option. But, it is the most expensive one, the option most fraught with risks of counterproductive impact, the least timely approach to reaching

[9]"Indivisible Airpower," Air Force Magazine, March 1984, p. 49.

U.S. STRATEGIC TANKER FORCE STRUCTURE
1954 - 1984



Assembled by Lt Col Knox Bishop from HQ SAC historical data with graphics prepared by Capt Tony Waisanen, HQ SAC/XPX

distant targets, the approach most loaded with complications and the one least likely to lead the way to victory. Base building is painfully slow in contrast to the lightning fast events of low intensity conflict as we know it. Bases are hard to protect and clearly intrude upon the "Victim State's" image of competence. Building of large bases and base systems has not proven to be an element of a winning strategy in low intensity warfare.

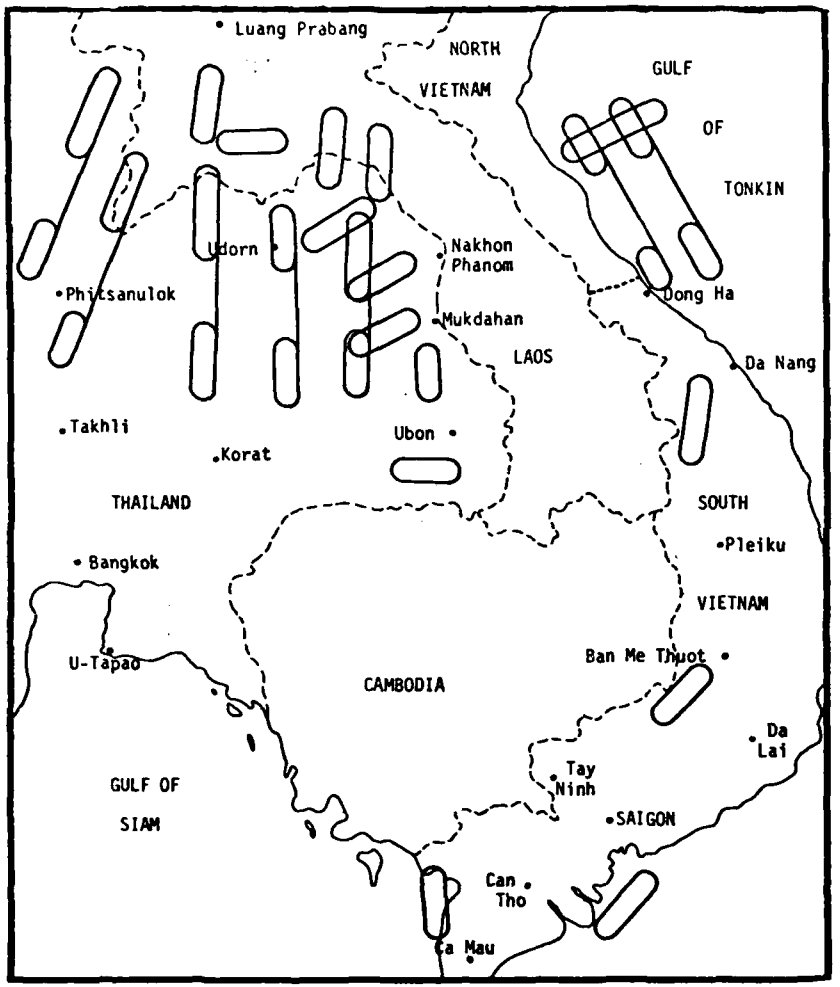
The construction of massive base complexes in the low intensity conflict context also ignores the fluid nature of such conflicts and the possibility that the base we build today may be used against us tomorrow. Cam Ranh Bay is an excellent example as are a number of Soviet-built bases in the Middle East now considered likely staging bases for U.S. operations. Even when friendly relations remain with the host country, growing nationalism reduces access to bases we build. The Philippines provides an excellent example. Nichols Field, Mactan Air Base, Cavite and Sangley Point are U.S.-built facilities no longer available to us. Clark Air Base and Subic Bay are major U.S. base complexes which are still used but have reverted to dual nationality status with U.S. presence at the pleasure of the government of the Philippines. So the use of long range airpower produces a potentially far more reliable result than does the building up of basing systems more elaborate than we can sustain.

PAYLOAD

In direct tradeoff for range, large bomber aircraft possess heavy payload capabilities which offer distinct advantages over smaller aircraft in the execution of low intensity conflict missions. The target system of the guerrilla enemy in low intensity conflict has

SOUTHEAST ASIA AIR REFUELING INFRASTRUCTURE

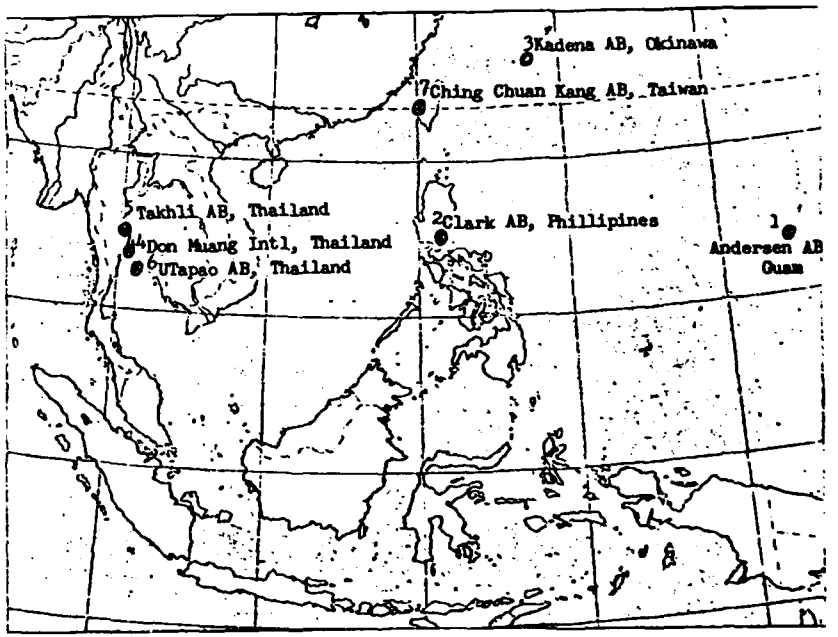
FIGHTER AND RECONNAISSANCE REFUELING AREAS



SUPPORTING BASE SYSTEM

KC-135 SEA OPERATING LOCATIONS, 1964-1968

1. Andersen AFB, Guam: Hq 3 AD; Strip Alert Tanker; Typhoon Evac Base
2. Clark AB, PI: Yankee Team; Foreign Legion; Typhoon Evac Base
3. Kadena AB, Okinawa: 4252d Strat Wg; Arc Light and Young Tiger
4. Don Muang International Airport, Thailand: Tiger Cub
5. Takhli AB, Thailand: Detachment 1, 4252d Strat Wg; King Cobra
6. U-Tapao AB, Thailand: 4258th Strat Wg; Giant Cobra
7. Ching Chuan Kang AB, Taiwan: 4220th Air Refueling Squadron



Charles K. Hopkins, SAC Tanker Operations in the Southeast Asia War, (Office of the Historian, Strategic Air Command, 1979), pp. 19, 24.

B-52 COMBAT RADIUS
FROM EXISTING B-52 BASES

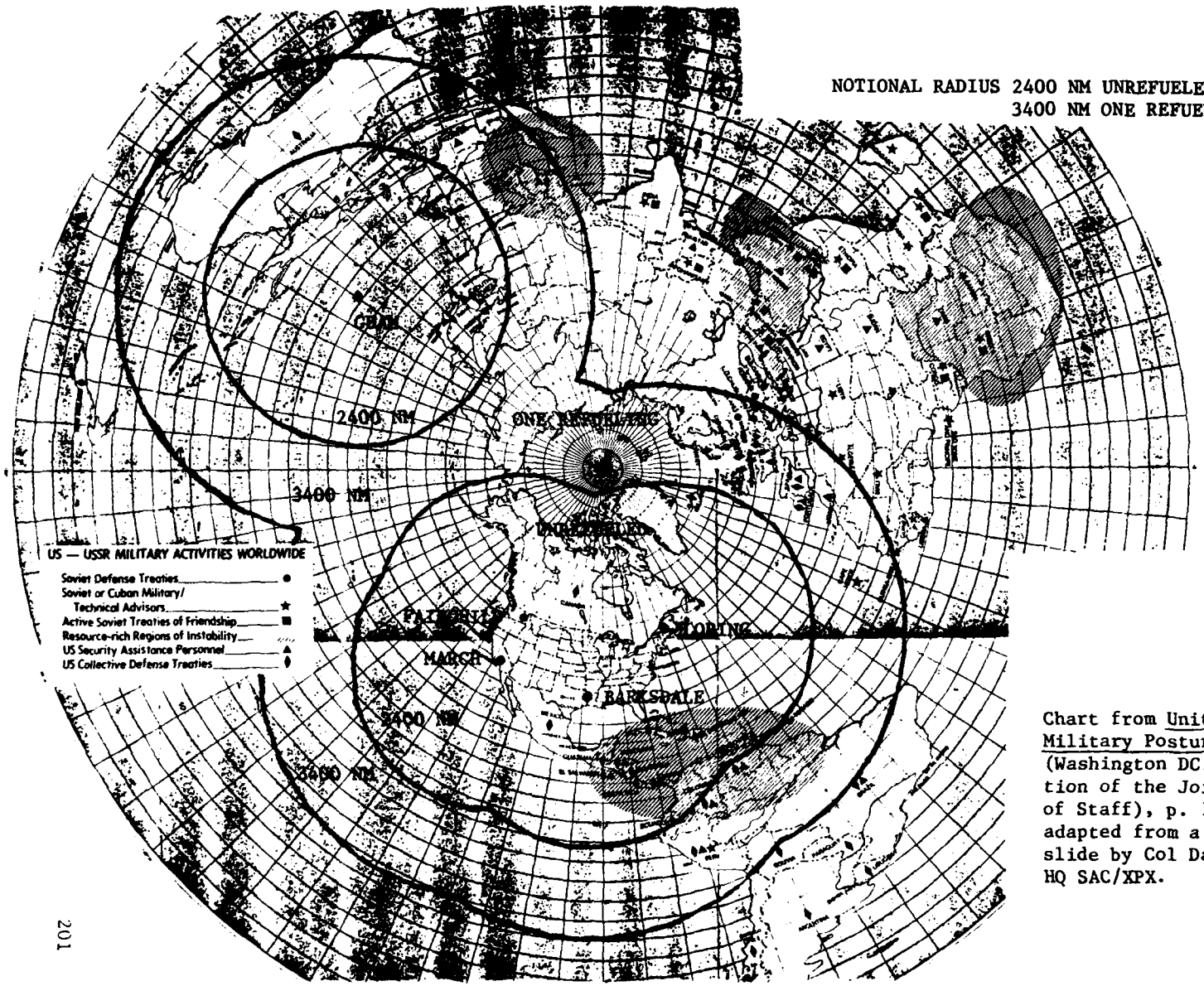


Chart from United States Military Posture, FY 1984 (Washington DC: Organization of the Joint Chiefs of Staff), p. 11. Overlay adapted from a briefing slide by Col Dan Boyer, HQ SAC/XPX.

characteristics against which the utility and suitability of specific combat aircraft and tactics must be measured. Targets are frequently of uncertain location or effectively disguised. Consequently, the payload capacity necessary to engage them as area targets is significant, particularly when available munitions are iron bombs of classic design.

While such weapons are certainly not the most effective way to arm long range air to destroy area targets, iron bombs are the only weapons we presently stock in large enough numbers to support a sustained bombing campaign and thus must be used as an interim measure until modern area weapons are procured. Large payload capability then enhances the capacity to employ modern area munitions which tend to be larger in volume than "iron" bombs.

Similarly, large weapons bay capacity yields adaptability to precision standoff weaponry which is ultimately the most promising approach to attacking important targets once they can be localized precisely. These hold particular significance in attacking targets within an intensely defended area. It is important to recognize that while targets of imprecise location are a major part of the low intensity warfare target system, such warfare does include localized point targets of great value. These are normally of transient value or located in an area of political sanctuary. The transient or pop-up targets can be engaged by a variety of systems but only when the time from recognizing the target to engaging it is extremely short. The payload and endurance of long range airpower make the appropriately equipped heavy bomber a weapon of choice for engaging such targets. As long as a set of coordinates can be communicated to an airborne bomber and the bomber redirected to the new target, munitions can be delivered to the target

RANGE/PAYLOAD COMPARISON OF MODERN COMBAT AIRCRAFT

CATEGORY	RANGE (KM)	WEAPONS LOAD (000 LB)
Bombers		
B-52G	12,000	70
B-52H	16,000	70
FB-111A	4,700	37.5
Strike Aircraft		
F-4E	2,200	16
F-111E/F	4,700	28
F-16	3,800	20
A-6E	3,200	18
A-7E	2,800	20

NOTE: Ranges given in km; for nautical miles, divide by 1.852. Figures for aircraft are theoretical maximum unrefueled range at optimum altitude and speed. Higher speeds, lower altitudes and full weapon loads reduce range; especially with strike aircraft; for instance, an A-6, at operational height and speed with typical weapons load, has a combat radius of some 1,500 km, compared with a maximum ferry range of 4,700 km.

The Military Balance: 1983-84 (*London*: The International Institute for Strategic Studies, 1983), pp. 120 and 122.

faster than from any other platform that has to be launched to respond. Many targets can be struck in the course of one mission and targets missed or incompletely destroyed can be restruck as soon as damage is assessed. This approach also reduces one of the great weaknesses of airpower in low intensity conflict which has been the chronic difficulty of keeping airpower present continually in the combat rather than just presenting a transitory threat which can be waited out by a dug-in guerrilla enemy. Appropriately supported long range airpower can be a continuing presence day and night, good weather and bad, robbing the guerrilla of his freedom of movement.

Payload is the link which enables heavy bombers--even aging ones--to be the vector for the most modern munitions. In the fast-paced move to more and more advanced technology in the formulation of combat power, innovations occur more rapidly in certain areas than in others. In recent years, it has been in the area of munitions lethality, guidance accuracy and the ability of munitions to reach even distant and well defended targets that the most rapid progress has occurred. The heavy bomber, as well as other aircraft, have made progress, but progress limited by size, the presence of a crew and the maturity of aircraft design technology. But, the large manned aircraft does provide the intercontinental range, endurance and responsiveness which are needed to convert the potential of modern munitions into effective force in the low level conflict scenario.

RESPONSIVENESS

Responsiveness of the long range airpower vector equipped with the appropriate modern munitions contributes to decision in combat. In

fluid low intensity warfare, the guerrilla must protect his assets while audaciously eroding the victim state's defenses. The guerrilla must minimize his own exposure to attack and respond not only to the government's initiatives by immediate defensive reactions, but also by posturing himself so that an effective government campaign cannot be mounted against him. So while the guerrilla's success depends on spending most of his resources on offensive action, he is in fact compelled to place the highest priority on defense. If the U.S. helps the "Victim State" government through the slow pattern of incremental escalation we used in Vietnam, the guerrillas adapt easily to the pattern and can indeed defend their central resource base quite effectively regardless of the ultimate level of violence inflicted on them. It is only when massive firepower is applied quickly to the most important targets that the effort can be decisive. In such a discontinuous move to a high level of attack, the type of attack which long range airpower is well constituted to conduct, the only way the enemy can defend himself is through a retrenchment so sweeping that it can cost the guerrilla the initiative and resources enough to threaten his ability to endure. This can have both a lasting political and military affect on the war.

The appropriate employment of long range airpower in consonance with the principles of war can match the opportunities for decisive action provided by the pace of low intensity conflict. The unique characteristics of heavy bombers enable such forces to decisively attack one target set and then move on quickly to another without telegraphing the blow. By either direct attack or area denial, bombers can attenuate infiltration of supplies to the degree that new routes will have to be

developed. They can then attack forces massing for assault on government positions. Such attacks can be sustained where guerrillas are determined to overwhelm a particular objective until the destruction wrought by the bombers upon guerrilla forces can assume the nature of offensive action. Long range air can then prepare the way for government force offensive action. Assuming that there is a surrogate state supporting the conflict, long range airpower can be a weapon of choice for decisive action against the national resource base supporting the conflict. In each case, bomber attack can be both prompt and massive enough to cause the enemy to totally redirect his war effort. In low intensity warfare, successfully forcing the guerrilla to reconfigure his campaign is a clear step toward victory. Guerrilla warfare is a carefully refined process and major redirections of the guerrilla force's tactics can move him beyond the narrow envelope of potential success. The resources and time needed to establish a guerrilla campaign can cost guerrilla forces the initiative and the ability to sustain the attack other than at a level so low that is no longer a proximate threat to the victim state's survival.

OBSERVATIONS

Although long range airpower cannot do the whole job, it can be decisive during some phases of combat. It can delay, reverse or defeat the guerrilla enemy's decision to shift to massed, conventional unit maneuver warfare as it attempts to overwhelm the "Victim" government's key assets. It can enhance the government force's ability to inflict significant losses on the guerrilla. It can effect enough direct

casualties and material losses on guerrilla forces to force them to so low a level of violence as to no longer be a mortal threat to the beseiged government. When a "Surrogate State" is involved, a well executed bomber campaign can effectively reduce the level of support reaching the guerrillas or cause the surrogates to move from military support to the political arena as their primary locus of conflict.

Long range airpower can do some jobs better than any other forces throughout the entire conflict. Large aircraft certainly are the most effective vehicles for area attack, whether by direct attack or mining. Until targets are located, there may be no viable alternative. Effective interruption of logistical resupply and infiltration systems, whether by land or sea, may also be a near exclusive purview of long range air. Strategic strikes into a surrogate state territory may also best be done by bomber aircraft. Continuous airborne combat presence is certainly a long range airpower contribution. The employment of this capacity can be offensive, defensive or both simultaneously.

Long range airpower can avoid some critical mistakes. It does not require base building or other slow assembly of resources which contribute to counter productive incrementalism. It does not intrude large base complexes and numbers of foreign personnel into a "Victim State" fighting to preserve the appearance of national competence. It does not require repeated attack of a target to assure initial destruction, thereby reducing exposure to defenses and attrition. It possesses the potential to get the most out of standoff munition technologies.

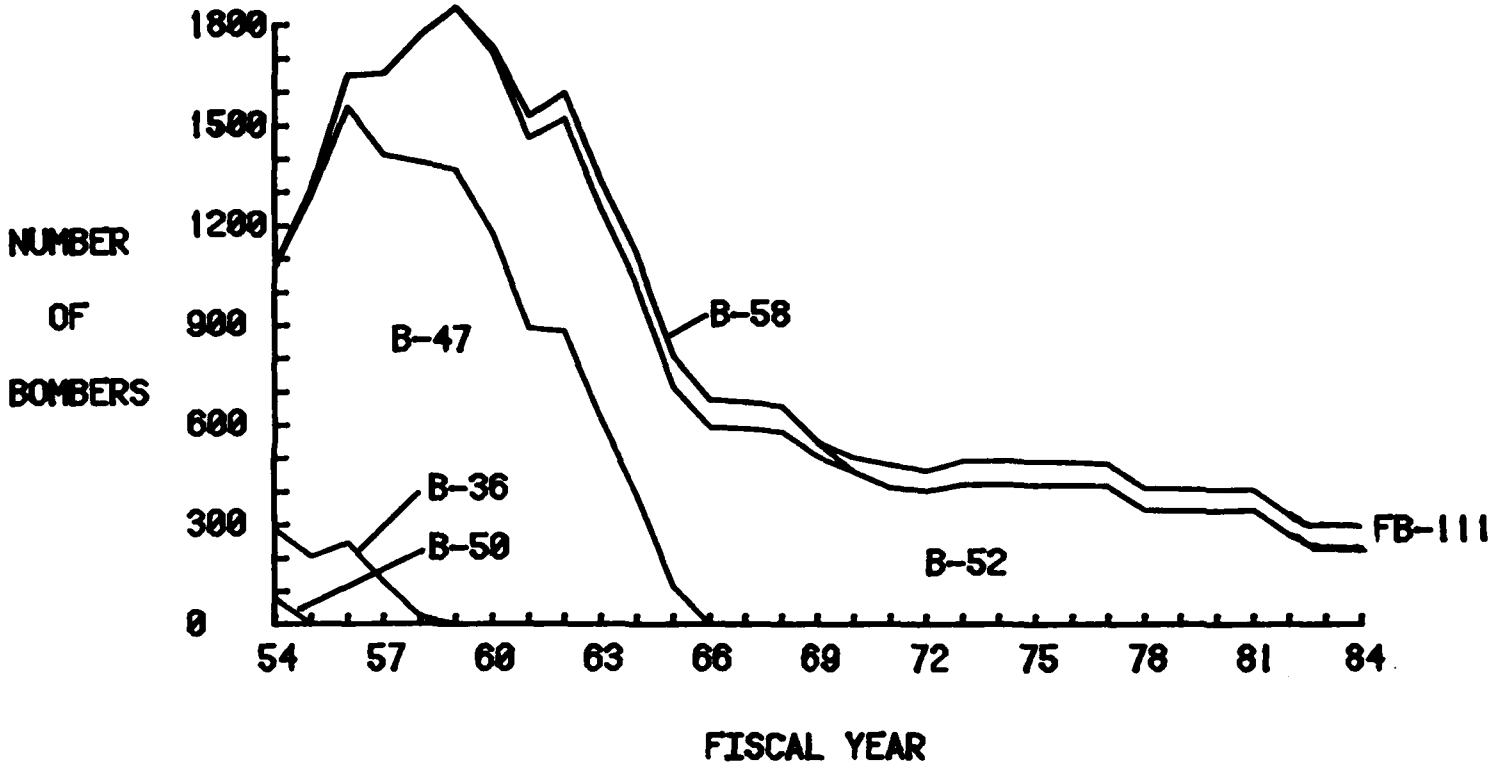
CONCLUSIONS

Recognition of the utility of long range airpower in low intensity conflict implies action if we are to preserve this force option. Thanks to the vision and investment of Americans of a generation ago, our long range airpower assets exist today. But, these assets are today subject to extreme peacetime pressures which tend to reduce their effectiveness.

The fact that long range bombers were procured as nuclear delivery vehicles blinds many critics to their conventional utility. This has led to steady force structure attrition. In October 1983, the last of the B-52Ds, capable of carrying the largest conventional payload of any B-52 variants, were retired. Programmatic pressures could threaten the B-52Gs. In conventional war, numbers count. Military payoff is less a product of a single bomb on a single target than it is enduring pressure on an entire target set over days, weeks or even months. Focus can be adjusted to attain concentration or dispersion in time or space, but the decisive military result demands adequate numbers of aircraft, crews, munitions and support required to do the job. The United States is perilously close to allowing its long range airpower force structure to subside below the level required to support low intensity conflict while still reserving a meaningful nuclear alert force.

Balanced, continual modernization is a further essential pre-requisite for a low intensity conflict role for long range airpower. Most of our long range airpower assets are well over two decades old and it will be years before they are replaced. They need to be maintained to day-to-day, safe flying standards and that means modifications since much of their original technology is of museum vintage and can no longer

U.S. STRATEGIC BOMBER FORCE STRUCTURE
1954 - 1984



Assembled by Lt Col Knox Bishop from HQ SAC historical data with graphics prepared by Capt Tony Waisanen, HQ SAC/XPX

be reproduced or repaired economically. Defensive aids must also be updated to cope with a dynamic threat. This sort of investment is the price we must pay to retain effectiveness. Moreover, when we look to replacement systems, it is crucial to realize that for long range aircraft conceived primarily for the preservation of nuclear deterrence, conventional weapons delivery is a major source of return on investment and must be retained. Indeed, if the nation does its nuclear deterrent job right, the only operational service B-1s and ATBs will ever see, as in the case of the B-52, will be in conventional and hopefully low intensity warfare.

Finally, however we may harken back to the cigar chewing bomber pilot leading his crew through the flak and fighters, the most critical need for continued conventional and low intensity conflict application of long range airpower lies in the area of conventional munitions development and procurement. The future conventional utility of all manned strike aircraft, fighter or bomber, will ultimately depend on the ability of modern standoff munitions to penetrate defensive arrays and strike targets accurately with the appropriate lethality. The technology is at hand. What is missing is the resolve to field the appropriate weapons. The second half of the munitions dimension of long range airpower effectiveness is the realization that decisive employment of long range air delivered weapons depends on ample stocks of weapons on hand at the outset of hostilities. If the United States insists on maintaining stocks of weapons insufficient to pursue decisive combat from its initiation to its successful termination, it will be condemned to pursue the strategy of defeat through half measures while we wait for weapons which would have served well at the outset but can have only

marginal return when applied late in the evolution of prolonged low intensity war.

The U.S. Air Force cannot allow itself to be so fascinated by the bright and shining possibilities of new technology that the principles of war and the facts of geopolitical reality elude us. Mass, surprise, and range to match the global span of U.S. vital interests together will enable this nation to avoid its own Falkland Islands War or worse.

Up to now, low intensity warfare has been used against the United States and its allies because a shrewd psycho-political calculus determined that we as a nation will, as a rule, not strike out in retaliation for low intensity violence with the full force of our arms unless such response is proportional to the injury suffered and likely to lead to prompt resolution of the crisis. Fortunately, our military capability to retaliate effectively exists and provides some deterrence in spite of American reluctance to take precipitous action. If, however, we allow our prompt, long range forces, particularly our airpower, to shrink to the point that they can no longer cover our interests and generate the calculations that we have lost both the will and the military capability to respond effectively in low intensity warfare, we will both foreclose on America's ability to protect its vital global interests and remove the most potent factor which keeps the most immediate military challenge from growing beyond the low intensity conflict level.

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AIRPOWER IN LOW INTENSITY CONFLICT IN THE MIDDLE EAST

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AIR POWER IN LOW INTENSITY CONFLICT IN THE MIDDLE EAST

Interest in this country in low intensity conflict is on the rise--again. There is a certain fadishness in this interest, an air of deja vu, and an air of unreality. The conceptual interest in limited wars in the nuclear age is at least 35 years old, and the concern for counter-insurgency warfare in the US Government stretches back to the Kennedy administration. The literature on the subject, whatever the current terminology, is extensive. Indeed, one could argue that there really is nothing new to say on the subject. The principal value of the new terminology is that it provides a way of separating an enduring concern from past doctrinal failure and embarrassment, it helps to rekindle interest in an important area, and it provides the means to educate a new generation of officials on the ins and outs of LIC. As a descriptive term, however, it leaves much to be desired, as continual problems with definition in forum after forum so readily demonstrate. [1]

Yet, coming to terms with a definition is important for it forces us to deal with the "messy military and political realities small wars embody and the military and political costs they exact." [2] It forces us to come to grips with a fundamental contradiction--the importance we assign the topic and our reluctance to come to terms with the implications of that.

Two major problems exist in trying to define LIC. First, is the problem of perspective. Like the Theory of Special Relativity, the perception of the phenomenon depends upon one's position relative to it. Second, the definition is being forced to include too much, and with many such cases, this means defining nothing at all.

Let us begin with the realization that all our definitions of the spectrum of conflict are subjective and are based on our position relative to the conflict. We define a spectrum of conflict in relation to the wars we fight, with total war--nuclear war--at the high end of the spectrum. We define a mid-intensity war, generally, as one confined to the use of conventional arms; and given the haggling over concepts, it is clear that we are on unsafe ground whenever we try to define low intensity conflict. It should be obvious, however, that from someone else's perspective, the combatants, that any armed struggle, short of war fought for limited purposes, is a total war for the participants at whatever their level of armament. The degree of violence and the quantity and quality of arms are not in this case adequate criteria for definition.

The Iran-Iraq war, for exmaple, is a mid-intensity conflict by our standards, measured against the possibility of thermonuclear war with the Soviets. For the Iranians and the Iraqis, however, the war is total, with the fate of both societies put on the line. It is thus, for them, a high intensity conflict waged with all available resources for the highest stakes.[3] Thus, we should realize, that even insurgency situations are high intensity conflicts for the primary participants [except in situations like Afghanistan where only one participant, the resistance, wages all on the outcome. The Soviets will survive defeat there, the resistance will not.] This is more than an academic point, for our perception of a conflict

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will

influence our response to it; and this will influence how well or poorly we deal with our "low intensity conflicts," most of which will be someone else's major war.

The second major definitional problem arises from the fact that there are so many people trying to reach a definition, and they are trying to include too much in the defintion. As I see it, the problem here arises from using terms such as the "spectrum of conflict" which links in a linear chain such diverse events as hostage rescue missions and thermonuclear war. Such a linkage creates immense conceptual problems when one moves from developing a linear definition, to make illustration and discussion easier, to the practicalities of turning such notions into actual responses. It is always difficult to add apples and oranges, and that is what is being done in trying to establish a mechanistic, linear definition of a spectrum of conflict in which disparate and multifarious events are linked in some artificial whole. In short, there is no way to make a definition consistent.

In addition, the spectrum of conflict also obscures the disjuncture between what is appropriate in LIC and what is suited to medium or high intensity conflict. It allows the assumption, unspoken, that the same force structure and method of conflict, simply on a reduced scale, are adequate in low intensity situations. It should be obvious before this paper is finished that this is not the case. What then is needed is a realization that the spectrum of conflict is a semantic convenience but not an analytical or conceptual tool of any fineness; its use suggests linkages that obscure reality and thus impedes the kind of thinking necessary to deal with the problems at hand.

Next, we should not include hostage rescue missions, relief exercises, etc., in LIC. Properly these are not conflicts but policing actions, even if they should involve special military forces. These should be put in a separate category, such as marginal military operations. LIC should be reserved for insurgency/counter-insurgency operations. It also needs to be established that the political aspect of these situations must demand predominate attention. Indeed, the definition of LIC should not focus on the military level of conflict but on its political character.

An additional problem is one of threshold, when and at what point does an LIC move into the mid-intensity range. From a US perspective it must be at that point that major US combat elements are involved in a combat capacity using more or less standard US conventional warfighting doctrine. For the primary nation, the one receiving US support, it must be at that point that the insurgency can field main force units in regular operations with a reasonable chance of success. Remembering Mao's three stages of insurgency, this is the ultimate goal if power cannot be won at a lower stage. It is important to remember, however, that this stage is not an absolute, that it can be reached and then given up if the correlation of forces is unfavorable, and that for the participants the war is a guerre a outrance regardless of the level of violence.

A final definitional problem, as well as one that plagues all efforts at execution, arises from conflicting bureaucratic interests. One commentator notes that, "The most substantial constraints on American's ability to conduct small wars result from the resistance of the American defense establishment to the notion of engaging in such conflicts, and from the unsuitability of that establishment for fighting such wars." [4] This is a problem detailed so well by Ambassador Robert Komer in his

study of the Vietnam war, "The Bureaucracy Does Its Thing". "What we did in Vietnam," Komer notes, "cannot be fully understood unless it is seen as a function of our playing out our military repertoire--doing what we were most capable and experienced at doing. Such institutional constraints as the very way our general purpose forces were trained, equipped, and structured largely dictated our responses." [5] The problem here is not good will, but a tendency for institutions to carry out their functions regardless of changing situations or needs--the playing out of institutional repertoires that are well-known and comfortable even if they are no longer effective.

"Underlying American military philosophy," argues Sam Sarkesian, "is the assumption that military formations trained for conventional battle are adequate to engage in low-intensity conflict." In Sarkessian's view, "This 'generalist' attitude prevails throughout the military system. Simply stated, 'common' service training for appropriate military units is coonsidered adquate to respond to almost all contingencies." This is not the case, however. "The fact of the matter is that the highly sociopolitically sensitive character of low-intensity conflict and force employment require a dimension that is hardly touched in standard military training or professional education." [6]

From this starting point, it is perhaps possible to outline a definition of LIC that gives us some operational guidelines. For our purposes, LIC is generally confined within one country, though the participants can be assisted by external forces, and is generally fought between groups representing rival paradigms for social and political organization. The objective is not military conquest but social control, which may use military means as one instrument in the struggle. The

objective is to win political control at the lowest cost as quickly as possible. For the participants in such a struggle, the conflict is total, but from a US perspective, it should be clear that the conflict is confined and should be contained, with force being used sparingly. Unlike the Iran-Iraq situation or similar ones, where conflicting national goals and the resources available to nations open up almost endless possibilities for escalation, conflicts within states--short of civil wars--are generally more containable and amenable to political solutions. Thus, a further element in our definition should be that LIC is the use of all the means of power--diplomatic, economic, military--to influence or create a situation more favorable to US interests, at the lowest possible level of involvement. Further, any use of military force must be measured against its social-political utility. Military means are a tactical element in a strategic program that emphasizes political goals and means. The use of military power, though essential, is limited, while the use of diplomatic-political power may be open ended.

The efficacy of this position is clearly demonstrated in a recent study by Dr. Max Manwaring at the US Army War College. Using a statistical analysis of fourteen cases of low intensity conflicts, it establishes key variables which correlate highly with win-loss outcomes. The study demonstrates that what is essential is political commitment; it also demonstrates that LIC is "considerably different than classical military confrontation," and that it requires a different set of approaches in which the use of military power must be measured by its contribution to the political effort. He also notes that since WWII the United States or allied governments have intervened in over 300 low and mid-intensity conflicts throughout the world to protect key interests in the Third World, and that these conflicts are the principal forms of conflict in the contemporary world.

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The view here, then, is that LIC is going to be someone else's war, but one that has implications for US policy that will require a response. It is the further contention that low to mid intensity conflicts are likely to be the pattern for future war, and that these will present the greatest threats to US interests; and the most severe challenge to our ability to respond as a nation. It is also the contention here, following from these arguments, that low intensity conflicts and Third World issues are the most pressing strategic problems that this nation faces, and that a solution or a methodology for responding to this threat is crucial to national survival.

The whittling away of our capactiy to defend our international interests is a far more immediate threat than that of a general war with the Soviet Union; it draws closer, however, the day when such a war is more likely; and it degrades our ability to fight such a war if it should happen. It is also the contention here that our enemies are aware of our incapacity to deal with low order conflicts and thus they resort to or support them as a means of striking at our interests below our effctive level of response. Dr. Manwaring notes that, "It appears that the United States has been perceived to be more vulnerable politically than militarily, and that is where the opposition has concentrated their efforts." This might be called the termite approach--eating away at the foundations of our interests out of sight until the whole structure is riddled with rot and ready to collapse of its own weight. [7]

The following study will examine key issues in low intensity conflicts by looking at three cases in the Middle East-Southwest Asia region. The study will focus on three conflicts--Iraq, 1919, Oman, 1970, and Afghanistan today. These will then be constrasted with a brief look at the Israeli invasion of Lebanon and the Iran-Iraq war. These case studies will be used

to illustrate certain comparisons between insurgencies, and the need for a counter-insurgency doctrine. The conclusions will then suggest specifics for ways of coping with the overall problem of counter-insurgency, and for the use of air power in such situations,.

Iraq, 1919-1921

The first major use of airpower in an insurgency situation in the Middle East occurred in the former Turkish province of Iraq after WW I. The British conquered the region during the war and used the political settlement afterward to establish what they hoped would be a permanent presence there behind the facade of an Arab government. British plans, however, meant betraying an Arab desire for independence and what many Arab nationalists believed had been a wartime promise by Britain to support an independent Arab state in all the former Ottoman provinces in the Middle East. [8]

This sense of betrayal coupled with the fact that four years of war in the region had caused a breakdown in political order fostered growing unrest in Iraq that eventually broke out into open revolt against British rule. Although inspired in part by Arab-nationalist propagandists and agitators, the main supporters of the revolt were the Shia population and the various Arab tribes that were armed and had a long history of violence and resistance to any government authority.

The revolt erupted in 1919 against the small British civil administration, suported by a small military force of no more than 60,000 British and Indian troops scattered throughout the country spending most of their time in civil duties. [9]

The revolt spread very quickly and the British were driven from a number of major towns and isolated garrisons as officials were massacred. The British reinforced their local troops and after several months restored order. The revolt lacked any coherent leadership, was not sustained by any deep sense of nationalism, and the local tribes did not have a history of sustained opposition against a strong display of authority. Order was restored without great loss of life. Importantly, however, the Arab population never accepted British indirect rule, and by the 1930s they had to withdraw from the region. In large measure, many of today's problems and the region's concern over imperialism grows out of the memories of this period.

The Use of Air Power

During the revolt itself, the British used airpower to fly reconnaissance and resupply missions, to strafe armed groups or villages, and to patrol hard to reach areas. It was realized very quickly, however, that the indiscriminate use of airpower did more harm than good. It was difficult to identify friendly from hostile tribes from the air; and as one contemporary official noted, the RAF "could not have dealt effectively with the orgy of riot and rebellion . . . and it was fortunate they were not called upon to do so." [10]

The most effective use of airpower in Iraq came after the revolt had been suppressed. The British realized that they did not have adequate forces to control all of Iraq, and so they decided to used air power to extend government authority into remote areas and into all parts of the country. The use of airplanes removed lucrative ground targets from tribes always interested in and used to raiding; and recalcitrant groups, identified by intelligence, could not escape retribution against their villages or flocks--although the British generally cleared the villages

before they bombed them, the idea being not to kill people but to punish them. With an efficient intelligence network on the ground, the British made very imaginative use of airpower in its infancy.

The revolt in Iraq, and its suppression, is also revealing for it demonstrated the failure to understand the political nature of insurgent situations. Although the British Army had a fairly easy time of restoring order--the world was more innocent of insurgency tactics then--they conducted a wasteful campaign that cost more lives and money than necessary, in an effort that may have prolonged the situation. The military ignored the political implications of their actions, and the "idea....spread that the military authorities, while no doubt recognizing that the general object of the operations was the defense or re- establishment of the Civil Government, were apt in particular cases to regard their wired camps, their supplies, and their lines of communication as ends in themselves." [Wilson, 285]

The same keen observer noted that Headquarters tried to micromanage the field effort, and "The Principle that officers to command in detached operations should first be carefully selected and then given utmost possible freedom of action will no doubt continue in the future as in the past to be accepted in theory and denied in practice." [11]

Oman

The insurgency in Oman had its roots in the distant past of the country, arising from the tensions between political-religious rivalry of long standing, and the hostility between various rival tribal groups. The incompetence of the political leaderhsip in Oman in the 1960s complicated these older patterns of rivalry and provided the breeding ground for insurgency.

Initially the insurgency did not have a significant ideological base, but during the course of the 1960s Arab nationalism became a more important factor. This was abetted by the encouragement of the radical regime in Iraq and by the charismatic influence of Nassir in Egypt. The emergence of a radical, Marxist regime in South Yemen, on Oman's western border, in 1967 also contributed to the development of a more radical, ideological movement in Oman. [12]

Slowly the older revolt, supported in part by Saudi Arabia, gave way to a Marxist-inspired insurgency supported in part by the Chinese, Iraq, the South Yemenis and later the Soviet Union. By the late 1960s this movement controlled significant portions of western Oman, particularly the mountainous region known as Dhufar, and was beginning to threaten the very survival of the regime. The aging Sultan refused to take the steps that were necessary to confront the revolt, and so in 1970 his son, Qabus, perhaps encouraged by Oman's British advisors and patrons, staged a coup, replacing his father. It is with Sultan Qabus that the serious and ultimately successful counter-insurgency operation began in Oman.

The Revolt

In the late 1960s, well-trained, ideologically motivated cadres began to take over the Omani revolt, converting the movement into a Marxist insurgency. An active political propaganda campaign among the villagers and tribal groups of Dhufar, coupled with intimidation or elimination of recalcitrants, gave the insurgents a fairly extensive and stable base of operations bordering Yemen, which served as a sanctuary and supply base. Many young Omanis educated abroad joined the movement, and in the early 1970s attacks against government controlled towns and roads began to escalate. The insurgency, however, was poorly organized, troubled by internal rivalry, and did not demonstrate any particular adeptness in its military operations. Since it was only in its infancy as a military movement, this incompetence was understandable. This inability was more than matched, however, by the feebleness and incompetence of the Omani government, and thus the insurgency grew inspite of itself. The emergence of Sultan Qabus and his reliance on British counter-insurgency expertise came at a highly critical juncture. The new Sultan gave a new sense of direction to the government and began an effective campaign before the insurgency had had a chance to truly establish itself.

The initial government effort was also clumsy and poorly organized, but it gained competence quickly. The new Sultan also had to deal with the fact that there was little innate Omani nationalism to draw upon, and little loyalty to the central government. The bureaucracy was also small, venal and incompetent; and the military was little better, being poorly equipped, trained and officered, except for its British advisors.

The Sultan enjoyed two advatages, however. He, or the Sultanate, had a degree of acceptance and legitimacy within the country that he could use to muster support; and he was able to finance a more vigorous war effort as the

result of oil revenues that were beginning to come into the country. In addition, he had been trained at Sandhurst and had an understanding of military matters, and he was able to call upon British advisors and some combatants to help with the counter-insurgency effort. Furthermore, several other area states, particularly Iran, were concerned about the possibilty of a Marxist state emerging in Oman and as a consequence gave both financial assistance and military support.

The Counter-Insurgency Effort

The main features of the counter-insurgency program in Oman was the use of small, mobile forces; an education and training program for the military; an active civil action campaign to win over the population; a priority effort to undermine guerrilla support by winning over cadres and their base among the population; the use of a blockade system to seal off the supply lines to the guerrillas from Yemen; and an internal development and reform program that proved to the people that the government was both committed to their welfare and competent to provide for their needs.

The main British contribution, apart from advice, was the supply of pilots and a few planes for Oman's small air force, and the loan of Special Air Services forces, elements of the 22d SAS regiment. The SAS, organized into small groups called the British Army Training Teams (BATTS), were the main British combat element, and it was their participation that was, perhaps, the key element in the subsequent effective counter-insurgency effort. The initial task for these forces, in conjunction with the Sultan's Armed Forces (SAF) was to establish firm control over the areas already under government control and to slowly expand outward from these bases. The mission of the SAS forces was not primarily as a combat arm, but as anadvisory, recruiting and training arm. Although the SAS saw action, their

main contribution was to organize the Omani effort. The key to this effort was a program to establish an effective intelligence network to report on rebel movements and developments; a program of amnesty and training to convert former rebels into government forces, organized into small, mobile groups called firqats; a civil action program that brought medical and veterinary assistance, education and engineering help to formerly destitute areas; a rewards program for turning in weapons; an active psychological operations effort; and a program to develop the SAF as a fighting force that could hold its own. The firgat program was particularly successful and provide the counter-insurgency effort with invaluable intelligence and actual combat support.[13]

The essence of the firqat program, however, was not aimed at killing the enemy but at converting him to the government's cause, thus subtracting from the enemy while adding to the government effort with the same stroke. Importantly, the firqats were not organized as regular military units but as irregulars, and persuasion and consultation had to take the place of orders and a regular chain of command. This approach was necessary because of the nature of the local Arab character and leaderhip style. Although it created headaches, the results justified the extra effort. The firqat became an effective instrument in combating the armed guerrilla formations, and more importantly, in demonstrating to formerly remote or ignored areas that the government cared about them. This went a long way to undermine the appeal of the insurgents, who, in turn, began to resort to intimidation tactics. This backfired, however, as the government was demonstrating a clear alternative.

The civil action program, which operated along with the military compaign, sometimes caused military or security problems, but it was important to demonstrate to the people that the government was truly

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concerned about their welfare and not just out to subjugate them. In one case, a government-controlled town became the gathering point for many of the areas flocks, brought in by the families of firqat members. The people, former supporters of the resistance, expected the government to not only take care of the animals but to provide a market for their sale. This was a headache for the government forces, but it was decided to use the Sultan's Own Air Force to ferry the animals to market. In addition, "a Texan-style cattle drive supported by jet fighter cover and 5.5-inch artillery," was organized to drive many of the animals through enemy-held territory to a market center.

> Amidst scenes like shots from a Boulting Brothers comedy mixed with a John Wayne Western, fire fights between pickets and adoo [enemy units] on the high ground, whoops of delight from the firqat and expressions of amused disbelief by the SAF and SAS, five hundred head of cattle were driven across the plateau down the jebel to Taqa....Next day the herd, surrounded by armoured cars, arrived at Salalah to be met by the rejoicing inhabitants....there was no doubt that this signal demonstration of Government power did more to impress the people than all the broadcasts and leaflets put together.

The story of the cattle drive clearly demonstrated the government's power and the fact that it cared. [14]

The net result of these efforts was to gradually undermine the support for and the combat capability of the resistance. By 1975 the government declared the war at an end, and to date there has been no major recurrence. As one observer notes, however, "Winning a counter-revolutionary war is like clearing a garden of weeds; it is what you plant aferwards that matters." And how well you tend it. [15]

The Air War

The use of air power in Oman was constrained by Oman's limited ability to afford air forces, and the decision not to rely on air power as a major combat element. The contribution of the air force came largely in aerial reconnaissance, in resupply and communications efforts, and in attacking known enemy positions or in frustrating attacks on government positions when the targets could be clearly identified; and of course in supplying the special forces elements central to the counter-insurgency effort. Fixed-wing aircraft, principally Skyraiders and Skyvans, provided the main support, but after 1971 helicopters became an important element in supply and troop movement. The main users of helicopters in a combat role in Oman was by the Iranian Special Forces contingent sent to Oman by the Shah in 1973. Trained by the United States, these forces relied on classic helicopter tactics. The Iranians certainly made a contribution to the over all effort, providing needed manpower, but it is debatable whether their tactics contributed anything to winning the war.

Indeed, the Iranians often found it difficult to locate the enemy, since they were usually forewarned about an Iranian advance; the noise of the helicopters alone often giving their intention away. The Iranians tended to rely on large, set-piece operations that the guerrillas were able to avoid. In addition, the Iranians tended to keep to themselves, which hampered coordination. [16] As one SAS officer noted:

> The trouble was that the Iranians did not patrol at all as SAF understood it. When they did leave their bases, they moved in force. Any adoo about saw them coming from miles away and sensibly lay low until they had passed by. Consequently the only people who could get at the adoo were the firqat, and these refused to go on patrol because they thought the Iranians might mistake them for adoo on their return. [17]

The emphasis in the Omani counter-insurgency effort was on a sophisticated political campaign that used ground and air forces sparingly and only against known targets. After the back of the insurgency was broken, and the insurgents pushed back into pockets where there was little or no civilian population, the campaign against them took on a more regular military character. Here ground and air forces were able to operate more or less unconstrained; however, the targets were scattered and fleeting. This did not matter, though, since the effort was directed at a broken and retreating enemy that could no longer hide among the people.

Soviets in Afghanistan

The Soviet invasion of Afghanistan is an interesting departure in the study of counter-insurgency. The Soviets have for years encouraged insurgency, have taught its principles, and have supplied its practioners. Now they are caught in the snare of dealing with their own insurgency, and the last five years have not demonstrated that they are any better at coping than others faced with similar situations. Their involvement is still developing, and so any conclusions are interim, but the Soviet experience in Afghanistan, their failure so far to quell the war of national liberation there, and their efforts to devise a winning formula offer many insights into the particular problems of LIC.

Without going into detail about the events leading up to the invasion in December, 1979, suffice it to say that the Soviets had a variety of long-term interests in the region, complicated by the fact that there was an active insurgency in the country against the Marxist regime that had come to power several years earlier. For whatever reason, the Soviets convinced

themselves that they had to move quickly in the country to keep its clients in power. This determination lead to the invasion in December, 1979, and the years of strife in Afghanistan ever since. [18]

The initial Soviet invasion introduced some 80,000 crack airborne troops and mechanized forces that seized Kabul, the main roads and other cities, and installed Babrak Karmal as the more acceptable leader. In the weeks immediately following the invasion and coup the number of Soviet forces rose to around 100,000 and has remained fairly constant until recently. The Soviet forces still dominate the cities and control the main roads--though with great difficulty--but they have been unable to crush the resistance or to drive it from its main operating bases. Without a substantial increase in forces the present stalemate is likely to last for the foreseeable future. The Soviets, however, seem to be willing to wait. [19]

The invasion itself was a model of its type. It was executed with dispatch; it was well-organized and planned; and it accomplished all its initial objectives. It demonstrated clearly the Soviet capability to plan and execute swift operations using deception, surprise and highly mobile airborne and mechanized forces. Clearly, however, the Soviets miscalculated the circumstances in the country and misjudged the effect that their invasion would have on both the international community and upon the Afghans themselves.

The invasion left the Soviets in charge of all the main roads and cities but they largely left the countryside to the resisitance. Either the Soviets believed that the suddenness and forcefulness of the invasion would overawe any resistance, or they thought they could handle any resistance once they were in charge in Kabul.

After five years of incessant fighting, however, the situation today is pretty much what it was five years ago; except for the fact that the Afghan army is much less of a viable force than it was; the puppet government in Kabul is isolated, despised by the majority of the population and is riven by internal bickering; and the resistance is better equipped and organized--though only barely. In addition, the resistance is able to mount attacks on Soviet facilities, including the major air base outside of Kabul and on the Soviet embassy itself. The Mujahidin have penetrated the government and have suborned much of the Afghan army--which has become a major source of supply for the resistance. The Mujahidin are also able to harrass convoys on the roads, and in several areas have proved able to resist strong Soviet offensives, particularly in the Panjshir Valley, and have even retaken for short periods of time some of the major cities. In short, despite considerable investment, the Soviets are no nearer to dominanting the country than they were in 1979. [20]

The Soviets successfully achieved their political coup, and installed a government they felt more comfortable with; however, by aiming at the leadership and the situation in Kabul, they failed to appreciate the depth of sentiment against the communist government and the degree to which the local population was willing to go to resist external involvement. In addition, subsequent efforts to suppress the Mujahidin, the indigenous resistance fighters, have exposed deficiencies in Soviet combat tactics and techniques, and have illustrated the problems inherent in dealing with an insurgency. This is of particular interest because it offers the United States a chance to study the Soviets in action while also standing back and watching another superpower making the type of mistakes in a low intensity conflict that should be familiar to the United States.

The Strategic Situation

As it now stands, the Soviets are unable to defeat the resistance while the Mujahidin are unable to force the Soviets out. The combat forces on either side are about the same in number, though the Soviets can deploy far more forces if need be and can call upon the Afghan army; while the Afghans freedom fighters can call upon a potential force of some 2,000,000--though not all at any one time. The resisitance also receives considerable assistance from the general population--the guerrilla's sea. The Soviets have complete air supremacy and can deploy the full range of modern ground combat equipment; while the resistance must rely on an assortment of infantry-type weapons, including antique Lee-Enfield rifles, captured Soviet arms, and a number of SA-7s, AK-47s, light machineguns, a few heavy machineguns, a variety of small mortars, and the odd anti-tank gun. The Soviets and their Afghan allies are basically beseiged within their enclaves, and the resistance is largely able to move at will about the country, though such movement is becoming increasingly difficult during the day. [21]

The result is a stalemate. The Soviets, however, seem to believe that time is on their side, and although they have not developed a particularly effective counterinsurgency strategy militarily, they seem to be prepared to try to out last the resistance's willingness to go on. Of courses, the Soviets are still learning and are likely to experiment with various strategies with time. [22]

To date their strategy comes in four main categories. First they are trying to develop political and military cadres to take over responsibility within the country, creating at least a facade of local government. This

effort is plagued by rivalry between political elements within the Afghan government itself, and by the fact that the government is deeply penetrated by resistance sympathizers. To deal with this situation, the Soviets are trying to build up the state security apparatus, the KHAD, as the local version of the KGB. Even this organization is penetrated, however. A similar situation prevails in the military.

The Afghan Army has dropped from over 80,000 to around 40,000 and this number must be maintained by press gangs. Morale is low, desertion is high, and at least some officers and quite a few rank and file support the resistance directly or indirectly. The Soviets military outnumbers the Afghan Army by almost three to one, and the Soviets do not trust the Afghan soldiers. In combat they tend to use the Afghans as cannon fodder, driving the Afghans in front of them in attacks. Similarly, the Afghan Air Force is closely supervised, and Afghan pilots generally fly with a Soviet co-pilot or escort. Still, the Soviets are trying to create loyal cadres by sending students and soldiers to the Soviet Union for training, and by setting up local universities and schools to train the "right" sort. This is a long-term effort. [23]

Second, the Soviets are trying to develop a "hearts-and-minds" campaign. They are trying to promote rural development, building schools and hospitals and mounting psychological operations to persuade the local populace of the benefits of socialism that is bringing an end to Afghanistan's "feudal" past. This campaign, however, is seriously undermined by atrocities against the civilian population and by a bombing offensive that destroys fields and flocks. [24]

Third, the Soviets are trying to penetrate the resistance movement and they are trying to spread dissention and discord among rival tribes and the numerous factions that compose the resistance efforts. This campaign has had limited success, but as with everything else, it is too early to judge its effectiveness.

Finally, the Soviets are using their military force to wear down the resistance. The main elements in the military effort include campaigns against known resistance strongholds--there have seven major offensives in the Panjshir Valley alone since 1980; small, mobile search-and-destroy missions against isolated Mujahidin groups; some nighttime operations; heavy, almost indiscriminate bombing or assaults on villages to drive the population off the land; the use of chemical weapons; extensive mining, some accomplished by airborne means; interdiction missions against supply routes; stronghold and installation protection; convoy escort duty; and hammer-and-anvil type offensives.[25]

Over the course of the occupation the Soviets have modified their effort, moving from the use of tanks and mechanized rifle formations more to the use of helicopters, air assaults, and small unit actions. The Soviets found that heavy tanks were inappropriate for much of the Afghan terrain and have shifted to the use of lighter armored vehicles, such as BMPs and various BTR configurations. Interestingly, however, reports indicate that in at least some cases early on, despite combined arms doctrine, the Soviets used armor unaccompanied by supporting ground forces, or these troops never dismounted from their APCs, with predictable results. Reports also indicate Soviet units have not responded flexibly to situations, following plans slavishly; and even the use of small, mobile forces has been hampered by lack of support.[26]

The most recent campaign in the Panjshir, which came last April, after a long truce, also seemed to revert to older habits--reliance on large troop actions rather than reliance on small unit actions. The main difference in the latest effort was an apparent determination to garrison the Panjshir permanently. Also it seems that the Soviets are coming to rely more heavily on a strategic bombing campaign designed to depopulate the countryside, thus in this manner drying up the guerrilla ocean--the kill-the-patient school of medicine. The military effort, though, has not been a sustained action, but rather an episodic affair, with sharp peaks and valleys. Some of this campaign style is dictated by the regional weather; but in addition, the Soviets seem to be oscilating between an active military effort and a containment approach. In either event, this style is not in harmony with current Soviet military doctrine. But then most Soviet doctrine is not aimed at the type of situation prevaling in Afghanistan.

The resistance is not able to take full advantage of Soviet disabilities, however, because it is severely divided, some groups within it spending more time fighting othere resistance groups than the Soviets. Afghanistan has never been a highly unified country and religious, regional, and family and tribal loyalties often takes precedence over national identity. THis lack of any cohesive nationalism or ideology means that the resistance has no consistent discipline and no overall leadership, a fact the Soviets can exploit by inciting old feuds. The history of nonideologically based movements of tribal groups against a determined enemy is not very reassuring about the long-term viability of the resistance in Afghanistan. Most resistance groups are small, coordination is difficult even when the will is present, and logistical difficulties limits the size of forces and operations. Furthermore the resistance is indifferently armed and must cope with long lines of supply and the generosity of foreign donors and Pakistani tolerance. These points inhibit the resistance capability to

mount any sustained, large-scale offensive that could threaten the Soviet presence. It remains a war of attrition. [27]

This brief survey of the Afghan situation illustrates that the Soviets are still struggling for a formula for coping with their own insurgency. A quick review of Soviet military literature reveals increasing commentary on Russian experiences in Central Asia in the 19th Century, the Soviet explosive in Central Asia after WW I, on partisan war during WW II, on mountain-fighting techniques, and on the experiences of other nations in low intensity conflicts. This study includes the US experience in Vietnam. The Soviets are trying to learn how to cope and some modificatons in their effort indicate some learning going on, but it is too early to evaluate the long-term impact or the depth of this effort. [28]

The Use of Air Power

The Soviet use of air assets, particularly helicopters, shows some effect of the learning experience. The Soviets are coming to rely on helicopters for more and more of the effort, and they are using them in a range of missions, from convoy escort duties to troop insertion against resistance strongholds. [29]

The initial use of air power in Afghanistan, of course, was the rapid insertion and subsequent reinforcement and resupply of several airborne brigades. Once again the Soviets proved the value of and their capability to use long-range inter/intratheatre lift.

After the initial deployment of forces, however, the Soviets seemed to have had some difficulty in deciding how to employ their air power; and lack of coordination between ground forces and the air assets, which are separately controlled, remains a problem. Still the Soviets are using

airpower in a variety of ways. They are resorting to high-level saturation bombing, and have begun to use a number of SU-25 Frogfoot ground support aircraft-- perhaps for evaluaton purposes. The main air weapon, though, has been the helicopter, principally, the MI-24, Hind, and the MI-8, Hip. [30] The Hind is used as a fire support platform, and as a roving agent, usually in twos and threes, to interdict daytime movement.

The MI-8 is generally used to ferry in forces for ground assaults. One of the standard employments has been to ferry ground forces into positions behind suspected resistance forces and then to use ground troops in a frontal assault to drive these forces onto the "anvil" of the heliborne forces. Other helicopters are used to resupply isolated garrisons. The helicopter, however, has not eliminated the ground threat and the resistance has, despite its limited means, taken a heavy toll in helicopters, demonstrating their vulnerability to fairly unsophisticated groundfire. To date the Soviets have no low, slow fixed-wing COIN aircraft, and nothing similar to the AC-130. Time may change this. Overall, the Soviets have no forces, doctrines or weapons designed for low intensity conflict. They seem to be groping towards some such program, but those developments wait on the future.

Not so Low Intensity Conflicts

The Israeli Invasion of Lebanon

Strickly speaking, the Israeli invasion of Lebanon was not an example of a low intensity operation, nor was it exactly a counter-insurgency operation. The Israeli invasion was exactly that, even though its principal target was the irregular forces and political infrastructure of the PLO, a

largely guerrilla force. The Syrian forces based in Lebanon were also major targets, however; and much of the Israeli effort aimed at crippling the Syrians. [31]

Although technically speaking the war between the PLO and Israel is not an insurgency, it is hard to categorize it as anything else. In most respects it is an insurgency, but the main body of guerrillas happen to be fighting from exile. They claim the same land, however, and view Israel as an occupying power. The tactics employed by the PLO are also those used by insurgent forces. It is this "war from the outside," the landlessness of the PLO, that gives the struggle its peculiar characteristics.

This is not the place to recount how the PLO came to be in Lebanon or how they converted it into a base of operations against Israel. Suffice it to say that from the mid-1970s, the Palestinians were able to build up a fairly extensive political and military infrastructure in Lebanon from which to orgainze attacks into Israel. In addition, the PLO was strong enough to challenge Lebanese authority, and had become a major actor in the civil war in that country. The instability in Lebanon and the fact that the PLO could use it as a base of operations, a unique development for the Palestinian movement, excited fears in Israel. This fear, plus the fact that the Syrians were expanding their presence in Lebanon, particularly using the country to extend their anti-aircraft missile network, and flank Israel, also increased Israeli security worries. As a result, the Israelis executed a well-planned and almost flawless operation--up to a point--aimed at liquadating all their problems in one move. [32]

The invasion, like the Soviet invasion of Afghanistan, was a classic in swift, well-coordinated operations. Relying largely on combined arms tactics, the Israelis overwhelmed the lightly-armed Palestinians, and devastated the Syrian army and air forces. The air campaign against the Syrians, particularly, was a model of its type.

The major objectives of the Israeli campaign were to eliminate the Palestinian presence in Lebanon, destroy Syrian forward-based SAM sites and to provide an opportunity to resolve the Lebanese civil war in such a fashion as to restore order on Israeli's northern frontier and to preclude the possibility that Lebanon could be used as a base for either the Syrians or the Palestinians. This bold program may also have had an unspoken assumption--that by the invasion the United States would be involved in the subsequent settlement process and would thus complement the political objectives by working out a comprehensive settlement.[33]

The invasion, as a military venture, was, for the most part, a stunning success; though, given the fact that the Palestinians were a ragtag force, the Israelis might have been expected to do even better. Virtually all the objectives were achieved, and the air campaign against the Syrian SAM batteries in the Biqa Valley were masterfully executed. The Israeli Air Force alone performed beyond even its expectations in dealing with the Syrian Air Force. The Israelis showed an imaginative use of remotely piloted vehciles (RPVs). The ground forces, too, quickly overwhelmed the Palestinians and dealt a series of sharp bolows to the Syrian Army, and they demonstrated the effectiveness of helicopters in the anti-tank role, though their losses indicated the vulnerability of helicopters to even unsophisticated fire.

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Perhaps the only negative note in the military effort was the reltively poor showing of the IDF in conducting military operations on urban terrain [MOUT], and in mountain operations. Reluctant to risk the lives necessary for a major effort to root out the PLO in Beirut, for example, the Israelis turned to artillery and air strikes to destroy PLO positions. Past experience in urban terrain has demonstrated time and again that such exercises are of very limited value, and that no amount of conventional bombing will dislodge a committed enemy. The Israelis also paid a price for this effort. Although the amount of damage done in Beirut by Israeli attacks was fairly limited, the air strikes in particular being highly controlled and surgical, the television image broadcast worldwide of seemingly indiscriminate bombing of civilian targets did nothing to bolster Israel's international reputation. Much less publicized was the discipline of Israeli ground forces in conducting MOUT operations; the various units involved operating under rules of engagement, strictly enforced, that prevented them from harming civilians even if guerrillas were sheltering with them. The IDF took casualties on occasion to avoid alienating Lebanese opinion by indiscriminate fire in response to provocation.

As noted above, the planning and execution of the campaign was a textbook case. Did it, however, achieve its purpose? The spectacular nature of the military operation has tended to obscure the fact that the invasion had a largely political purpose. As in the Afghan case, it is too early to draw final conclusions, and the actions of the various elements in the story are still ongoing. An interim judgment, though suggests that the operation was only of limited success, and the ultimate costs may have exceeded any benefits. The invasion demonstrated Israel's conventional military capabilities, which were hardly in doubt, but it has not demonstrated a comparable political adroitness.

Since the invasion, Israel has not found a formula for disengagement. As a consequence the IDF is subject to continual harrassment, and more people have probably been killed or wounded than in all the Palestinian attacks on Israel. [34]

In addition, the cost of keeping occupation forces in Lebanon puts a further strain on a crippled Israeli economy, that can ill afford the diversion of money and manpower; and the occupation has exacerbated internal debate over the wisdom of the invasion, even within the IDF, a debate that may have long-range adverse consequences. Despite the invasion the Syrians remain in the Biqa and all of their materiel losses have been more than replaced by the Soviets who now have an even greater claim on Syria; and the Syrian influences in Lebanese internal affairs has only increased. The Lebanese situation is no clearer, and though the country may be limping towards a return to national unity, it is not one necessarily favorable to Israel. Indeed, the ultimate result may strengthen the Arab seige of Israel. Furthermore, there are indications that the PLO is reinfiltrating Lebanon and that it may be able to resume at least some of its former positions there.

It is not clear at this point that the Israelis accomplished anything but a temporary disruption of the PLO. It is is not clear that the large-scale invasion justified the costs or achieved anything of lasting value. However spectacular the military success it should not obscure the fact that the Israelis failed politically. They demonstrated their unique command of conventional warfare, but their handling of the counterinsurgency still remains in the category of palliatives.

In all honesty, given the regional and intenational character of the insurgecy, unilateral Israeli means to resolve the problem are severely limited. A political solution may be completely out of the question, even if the Israelis were prepared to deal with the PLO; but that is not really the issue. The question is whether military means can substitute for political ones. The invasion of Lebanon, unlike other Arab-Israeli wars, was not a struggle for survival against overwhelming odds, with massive forces marshalled on Israel's borders. Clearly, there was no immediate or overwhelming military threat. The main objective was to use the military to achieve a political end. The success of the venture remains highly dubious, and underscores the inadequacy of substituting arms for policy.

The Iran-Iraq War

The Iran-Iraq war is neither a low intensity conflict nor an insurgency. It is a conventional war fought by Armies that number at least 1,000,000 men collectively, fought on regularly established fronts over 600 miles in length, with all the accoutrements of modern mid-intensity conflict [mid-intensity by our standards, but a total war by local ones]. It is dealt with here only as a contrast to the other types of conflicts discussed. This war too, however, demonstrates the problems of substituting military solutions for political ones, even when using war as a continuation of policy.

This is not the place to re-examine the many reasons why nations go to war; or to look in any detail at why Iran and Iraq went to war. The war grew, as it were, like Topsy. The Iranians provoked the Iraqis, already concered about Iran's ideological threat, by a propaganda and subversive campaign aimed at toppling the secular, Ba'thist regime; the Iraqis

ultimately responded to these provocations by launching a major invasion in 1980, hoping to capitalize on Iran's seemingly overwhelming internal disunity and the utter collapse of its military. Iraq's goal was clearly to achieve a political end by military means. Iraq, unfortunately for itself, overestimated its own capabilities and underestimated Iran's resilience or ablity to resist.

Conversely, in 1982, after roundly defeating Iraqi forces on Iranian soil, the Iranians concluded, from all available information and from the euphoria of an unbroken string of stunning victories, that the Iraqis were vulnerable to one last offensive. Like the Iraqis in 1980, they saw the opportunity to use military means to achieve a desired political objective--namely the destruction of the hated Ba'thist regime and the creation of a companion Islamic state that would further insure the survival of Iran's revolution. The Iranians miscalculated. They overestimated their own capabilities, particularly their logistical systems's ability to sustain a guerre a outrance; and they underestimated Iraq's ability to recover from defeat and revitalize its forces, materially and spiritually. The result has been repeated failure and the prolongation of a costly and perhaps ultimately fatal war.

Too much can be and has been made of the fact that nations that go to war need to calculate carefully the costs and determine clearly their ultimate goals. Like all plans and estimations before an event, the decision to go to war is made on insufficient data and will be influenced by desire or preconception. The direction the war takes will also be dramatically altered by the way unanticipated and unpredictable events actually unfold. No individual, even less complex political systems, however shrewd, insightful or informed can anticipate the future, predict

how others will respond in every case, allow for every contingency, or avoid mistakes and falures. Only hindsight, the lessons-learned process, affords that sort of perfection. Thus, it is a bit of hubris to castigate the Iraqis and the Iranians for their respective shortcomings. Fom their perspective and with their available information, the time seemed appropriate--unless one favors never acting until all the information is in, which means never acting--to launch attacks. They each failed and now pay the consequences.

The lesson of such a situation may be that once hostilities have begun in a total war between nations, that no matter the plans for the war or the political goals following it, events take over; that new plans and goals attuned to and dictated by the war situation will make ridiculous all ideas ad calculations reached in the relative calm of peace. Policymaking, however, does not stop with the outbreak of hostilities. This is also a lesson. War is a policy as well, and so is its conduct. A common mistake that Clausewitz warns against is that military means, plans and constraints can obscure the need to conduct war as a policy. This is more subtle than merely arguing that the military effort should be subjected to political direction, that officers should be under civilian control. War and military means are political instruments, and the determinants of their use must not be the result merely of capabilities. Victory is not a policy.

The Iran-Iraq war may also indicate the pattern for future conflict in the region--mid-intensity and prolonged. If that is the case, then this situation has profound implications for US interests and for stability in the area. The growing sophistication of the regional military environment may pose a serious threat for US ability to project power into the region. Regional air and naval capabilities linked to increasing sophistication in

shore-based anti-ship missiles and anti-aircraft systems will seriously complicate power projection problems, raising the risks. Although the focus of this paper is on low intensity situations, interstate rivalry and wars in the region may be the pattern for the future.

What Is To Be Done?

The foregoing discussion details the main features of LIC in the Middle East over a period of time, and it suggests some of the key problems in dealing with such conflicts, whether in the Middle East or elsewhere. From this discussion it is possible to derive nine major issues, lessons learned, as it where, grouped into three general categories, that have an impact on LIC thinking and on the effort to organize the US effort to cope with it:

Military Requirements
*Definition/Doctrine/Execution
*Force Structure
*Quantity and Quality of Equipment, Training, C^2
Political Requirements
*Political Will, Constraint on Involvement
*Coalition Warfare
*Nation/Institution Building
Constraints
*Priority Struggle with Other Interests
*Conventional Syndrome (Systemic Prejudice)
*Insufficient/Over Command and Control

As noted earlier, there is a problem in defining LIC, both because of its ambiguity and because of rivalry between various agencies for influence. This also means a problem in developing doctrine, since there is considerable dispute between the services, civilian agencies and influential individuals over what should be included in the doctrine. The definition is not simply a matter of intellectual interest since any definition carries

with it implications for force structure, and thus funding. Yet, arriving at a definition that can be used to guide force structure is essential if the military is to address the problems of LIC. In addition, there is the related problem of execution. It is not sufficient to have a doctrine, no matter how sophisticated, if it is not executed. There have been any number of definitions of LIC and a number of doctrines; there has been a steady stream of commentaries on the requirements for counter-insurgency campaigns, yet, we seem impervious to the lessons, the advice or the needs. Thus, it will not be sufficient to devise a definition or doctrine for LIC without following through on the measures needed to implement them.

This is partially a question of force structure--what forces, how many, and how configured--should be developed to deal with LIC situations. It is not sufficient to assume that existing force structure, equipment, or modified doctrine will meet the special needs of low intensity conflicts. As the case studies here indicate, business as usual will not answer to the demands of the situation.

The question then becomes one of designing forces and equipment and training programs to meet the needs of low intensity conflicts. The problem is not to overwhelm the insurgency with sophistication, but to design a response in consonance with the situation. [35]

The main requirements in designing a response are political, not military, but it is important to have a force structure that can respond with flexibility within this context. As the case studies indicate, political considerations predominate in dealing effectively and efficiently with insurgencies, not the use of this or that weapons system. This does not mean that force is ruled out, only that its utility must be measured against its contribution to political ends. Since US involvement in LIC is likely to be coalition warfare, this is even more the case.

In considering a US response in such circumstances it must be borne in mind that this country's ability to deal with the situation must be based on the political climate at home. The Vietnam war has raised the issue of political will and this country's ability to use its combat forces overseas in conflicts without clear purposes. Since low intensity conflicts are always likely to involve ambiguity, the question of this country's ability to become involved in LIC remains in doubt. The lesson of Vietnam in this regard is not that the United States should not go to war without absolute approval at home, as Harry Summers and others have argued, but that popular opinion is subject to change despite the justifications. Limited wars may still have to be fought, the issue is how to keep US involvement limited so as to avoid major disapprobation. This means that any involvement will require a political effort in this country to justify US purposes.

Such involvement also means coalition warfare, which imposes its own special problems in designing a US response. Although Harry Summers and I disagree on most things, he is right when he points out that coalition warfare creates special problems for the United States, including the fact of the disparity of interests and goals of the erstwhile partners, which can be exploited by the opposition.

Another key political problem in US interest in LIC is the question of nation or institution building. In most cases, including the ones discussed above, the conflicts within a given society have developed from a lack of local political legitimacy. The insurgency not only menaces the survival of a government, it also demonstrates that it is not in sufficient control of its own internal affairs or sure enough of the loyalty of its own people to govern effectively. The country in question may lack a competent bureaucracy and an effective military. This means that the United States,

as the coalition partner, must also be involved in promoting the necessary institutions and legitimacy that is essential for the government's survival. This is a complex and tricky task. It is essential, but it carries hidden dangers, one of them being the creation of a military system that can come to dominate the political system and thus aggrevate the problem. In countries with legitimacy problems, the creation of a strong, competent military may be the first step to creating a system of military rule. Thus, caution must be execised in developing a nation-building policy.

The final set of considerations in developing a US response to low intensity conflicts is the issue of constraints on the development of a consistent policy. All of the above issues, to a degree, suggest constraints, but in addition to these there are certain systemic problems that inhibit the formulation of an effective response. One of the main problems is the struggle between various institutions for resources and attention. It is by no means established that low intensity conflicts should receive the attention that is suggested here. In addition, the struggle between various elements of the bureaucracy for priority for their interests, regardless of the merits of the case, also means that any attempt to establish a clear agenda is frought with turf battles.

Complicating this situation is the fact that bureaucracies tend to deal with problems, however unique, with a set of well-established responses. This conventional syndrome, also described as the gyroscopic effect, means that agencies tend to resist new ideas or methods even if the old responses prove inadequate. This is a problem particularly accute in low intensity conflict situations, because the standard responses are singularly ineffective, yet the system refuses to learn. In part, this stems from the fact that low intensity conflicts do not represent a system-threatening

crisis, one that overrides parochial concerns and gives the disparate elements of the system a sense of common purpose. Lacking this, because the threat is attentuated, business as usual seems appropriate. This complacency is understandable, but it is profoundly antithetical to developing a clear, sustained, coordinated policy for dealing with low intensity conflicts.

A final constraint is the question of command and control. Low intensity conflicts require a high degree of coordination and control to make sure that ends and means are well matched. This presents a particularly difficult problem for the United States given the diffuse nature of its political systems and the almost anarchical approach it takes to dealing with foreign countries. The reverse side of this problem, however, is also an accute concern, for low intensity conflicts, at the ground level, require that local authorities have discretion in responding to the demands of the moment. Inflexible or misinformed authorities distant from the immediate situation, who still feel the need to be in control, can paralyze any effort, no matter how well thought-out. Thus, the question of over control is just as crucial as the need to have a clear line of command and control in guiding the US low intensity conflict effort. Central to dealing with these key issues is the need for a clear policy, both military and political, for US involvement. This needs to be more than a rationale, but an articulated statement relating ends to means, purpose to abilities. There needs to be concrete goals, clear limits. [36]

Recommendations

Having outlined the problem, the remainder of this piece will look at various recommendations. First, the question of the proper use of air power will be addressed, followed by recommendations for more general approaches to low intensity conflict. It is important to keep in mind, in this regard, that in the use of air power by the United States in a low intensity conflict, whether directly or as part of an advisory effort, it is the political context, both here and in the target state, that must receive the primary attention, that must form the context for involvement and the employment of force.

The first point to deal with in discussing the use of air power must be an effort to come to terms with the implications of the foregoing discussion. The primary contention here, unstated but implied, is that traditional air doctrine as we conceive it is inappropriate; that the extension of tactical air doctrine to the counter-insurgency effort is inadequate and wrong. Second, that the United States is ill-equipped and ill-prepared to advise on or conduct a low intensity conflict. Finally, that the remedy for this situation may be beyond our capacity or at least beyond our willingness to make the necessary adjustments.

Tactical air doctrine and the attending force structure are designed for conventinal wars against conventional enemies. In most LIC situations, control of the air is established by default, and isolation of the battlefield, where there are few and fleeting fixed battles, is a non sequitur. The use of high speed, high performance aircraft and heavy ordinance, just as in the indiscrimanant use of long-range artillery, is also counter-productive. Targets are difficult to identify, distinguishing friend from foe is largely a matter of chance, and time on station is too

ephemeral. What is needed is slow planes, that can be directed discriminatingly by ground observers relying on clear intelligence, and with an understanding of the situation. In addition, the air platform needs to be stable, tough, available, easily maintained and operated in an austere environment, and inexpensive. Thus, the AC-130, which is otherwise an excellent candidate for the task described above, is a bad choice for most low intensity conflicts because it is so expensive and difficult to maintain or operate from remote or poor facilities. Expense, time on station and difficulty of maintenance are also reasons why helicpoters are not necessarily the best answer to the LIC problem. The important point to keep in mind is that the LIC problem is someone else's war not ours, not the "big one" that our systems and docrines are designed for. [37]

It is this orientation towards general war, with the accompanying notion tht general purpose forces and weapons systems designed to fight the Soviets in Europe are capable of fighting any other conflict anywhere else, that largely disqualifies the United States from LIC. Our weapons systems and doctrines are directed toward dealing with the Soviets, just as theirs are centered on us. The consequences of such an orientation when applied in a different context are plainly visible in the current Soviet experience in Afghanistan. To deal seriously with LIC means developing a force structure and doctrine that clashes with the big-war syndrome; and it is our inability to recognize this and accept the consequences that make any successful response on our part doubtful.

The United States Air Force, for example, currently has no air platform for low intensity conflict [excepting the AC-130]. [38] With the exception of the JVX none are programmed. The USAF has no small, intratheater lift aircraft capable of operating from remote, austere fields; and it has few

pilots who are familiar with such aircraft built by other nations, so that a training mission is precluded. In addition, the USAF deemphasizes special operations, and for bureaucratic and budgetary reasons finds the idea of "low-performance" aircraft embarrassing. The tendency is to develop sophisticated jets, the "zoom-zoom" syndrome, and to encourage other states to acquire them, whether they have the material base, the technical expertise or the strategic need for such systems. In fairness, other states want them, but we offer few alternatives. We build ourselves out of the market. Unfortunately, however, our interests and those of our friends mean that we are still called upon for assistance, and our predilections often lead us into offering bad advice or assistance inappropriate to the local need.

What then is the appropriate use of air power in low intensity conflict and what is the US role? The three case studies outined above indicate that air power is most helpful in non-combat or support roles; that is in intelligence collection/reconnaissance, troop movement, resupply, and in showing a presence. In addition, it can be employed effectively against known enemy formations, or to interdict attacks on friendly positions. This role requires a number of different systems designed for the task and able to operate in relatively austere situations. It also requires a doctrine that subordinates the use of air power to political purposes. One of the indirect consequences of too great a reliance on air power, even from troop movement, is that it creates an artificial distinction between the war on the ground and the war in the air. It also reinforces another deceptive dichotomy in that it stresses maneuver and mobility over political activity. This is not to say that maneuver and mobility are not desirable, but to maintain that it is essential not to substitute military means for political ends.

The US role in promoting such a use of air power lies in two directions. First it means programming and acquiring a number of systems, trained pilots, and support staff capable of working in a low intensity environment. It also means working to change current doctrine on the use of air power for LIC; and it means an effort to convince Congress to remove restrictions on our ability to encourage Third World states to buy the air platforms that we cannot provide from other suppliers. Second, for the Air Force, it means creating a low intensity force, comparable to TACAIR or Strategic Air, though not as large. Either that, or the Air Force should abandon low intensity conflict to the Army and allow the Army to develop the appropriate systems and force structure. The Army, then, must itself com to terms with all the implications and realities outlined above. All of these suggestions are unpalatable, but they are realistic in terms of the demands for an effective response. The question is whether to take low intensity conflict seriously and to deal with the implications of doing so.

Turning from these specifics, it is time to look at the political effort that should form the context for any US involvement in a low intensity conflict. The problem is particularly complex. To quote Harry Summers again:

> ...the US is singulary unequipped [sic] to orchestrate the regional application of US power. Although military unified command headquarters may [my emphasis] pull together Army, Navy, Air Force and Marine elements...there are no equivalent regional agencies to coordinate and control the diplomatic, economic, sociological or psychological power.

Summers notes further that the situation is even worse at the national level. "While the National Security Council can consider and decide on actions...there exists no supra-national command authority short of the President himself to control operations...and thus coordinate the efforts of

the Department of State...the Department of Defense, the Department of Commerce, the Central Intelligence Agency, and the other activiteis involved in support of low intensity conflict." As Summers observers, "This lack of unity of command almost ensures [that] there will be no unity of effort." 39

It might be added, in the absence of any sense of crisis, that the various elements of the bureaucracy will not willing accept any infringement of their authority. Yet, the importance of low intensity conflicts demands a more sophisticated and dedicated approach. The attenuated nature of the situation, however, obscures its importance; but it is not sufficient to address the problem on a departmental, piecemeal basis. The solution lies in clear, decisive, sustained guidance at the highest levels, supported by the bureaucracy and the services, to effect the necessary changes for dealing with low intensity conflicts.

The first step in this direction is to establish an ad hoc group for low intensity conflict at the national, NSC level, perhaps chaired by the Vice President, but with the active support of the President. The purpose of this group would be to provide a focal point for thinking on LIC and an action agency to promote a coordinated effort from the government as a whole. It would be a high-level lobbying group and clearing house that could establish priorities and sustained guidance.

In addition to this body, there needs to be a corresponding, in-country ad hoc group under civilian control to coordinate and direct all US efforts in a situation that has been designated a low intensity conflict. Such a group, with direct links and responsibility to the national-level commission, would direct all US in-country activity for the duration of the crisis. Such a body would subordinate all normal US official relations with

the country in question, and would coordinate its policy with the national commission. This is not a solution that is likely to win the approval of the various competing bureaucracies, but the demands of a low intensity conflict policy and the needs for consistency and coordination must override business as usual.

NOTES

1. See Sam Sarkesian and William Scully (eds), US Policy and Low-Intensity Conflict (New York: Transaction Books, 1983), for an example of recent studies on the issue. There are also an increasing number of conferences on the subject, and the services, particularly the Army, are trying to develop doctrine and forces for low intensity operations.

2. Eliot Cohen, "Constraints on America's Conduct of Small Wars," International Security, Nr 9 (Fall 1984): 153.

3. For a similar idea see Andrew Mack, "Why Big Nations Lose Small Wars: The Politics of Asymmetric Conflict," in Power, Strategy and Security, edited by Klaus Knorr (Princeton: Princeton University Press, 1983): 126-51.

4. Cohen, op. cit., 165. Peter Bahnsen, a defense expert at OSD, makes a similar point more wittily when he defines LIC as those wars the US military does not want to fight. MAJ Andrew Krepinevich also argues convincingly that the US military avoided giving special operations and counterinsurgency anything but lipservice; see "The United States Army in Vietnam: Counterinsurgency Doctrine and the Army Concept of War," unpublished paper, USMA.

5. Robert Komer, "The Bureaucracy Does Its Thing: International Constraints on US-GVN Performance in Vietnam," RAND R-967-ARPA, August, 1972 (Santa Monica, CA: RAND, 1973): 45.

6. Sarkesian, "American Policy and Low-Intensity Conflict: An Overview," US Policy and Low Intensity Conflict, op. cit.: 11.

7. Unpublished study by Dr. Max Manwaring, SSI, USAWC. Stephen Rosen in "Vietnam and the American Theory of Limited War," International Security 7 (Fall 82): 83-113, also notes that bureaucracies are slow to change without an overwhelming sense of vision (p. 109), which inhibits effective response to LIC since it is an attenuated threat.

8. Material on the war is not extensive. The best work is Arnold Wilson's Mesopotamia, 1917-1920: A Clash of Loyalties (London: Oxford Univ Pres, 1931); and LG Aylmer Haldane's The Insurrection in Mesopotamia, 1920. (London: Blackwoods, 1922). Also see Ernest Main, Iraq: From Mandate to Independence, (London: Allen & Unwyn, 1935); Rich and Coke, The Heart of the Middle East (NY: Frank Maurice, 1926); LG Sir John Glubb, War in the Desert: An RAF Frontier Campaign (London: Hodder & Stoughton, 1969); and Howard Sachar, The Emergence of the Middle East, 1914-1924 (New York: Knopf, 1969).

9. Estimates on British forces vary greatly. See Wilson and Haldane, ibid., for estimates.

10. Wilson, op. cit., 239.

11. Ibid, 285.

12. The literature on the insurgency is limited and varies in quality. See John Peterson, "Britain and the Oman War," Asian Affairs 63 (Oct 76): 285-98, "Guerrilla Warfare and Ideological Confrontation in the Arabian Peninsula: The Rebellion in Dhufar," World Affairs 139 (Spring '77): 278-95; Oman in the Twentieth Century: Foundations of an Emerging State (Baltimore: Johns Hopkins University Press, 1978); Bard O'Neil, "Revolutionary War in Oman," in Insurgnecy in the Modern World, edited by Bard O'Neill, et. al. (Boulder, CO: Westview, 1980): 213-34; Aryeh Yodfat, The Soviet Union and the Arabian Peninsula (New York: St. Martin's Press, 1984); D. L. Price, "Oman: Insurgency and Development," Conflict Studies 53 (January, 1975); O'Neill and Wm. Brundage, "Revolutionary Warfare in Oman: A Strategic Appraisal," Middle East Review 10 (Summer 78): 48-56; John Townsend, Oman: The Making of the Modern State (London: Croom Helm, 1977); Nabil Kayleni, "Politics and Religion in 'Oman: A Historical Overview," International Journal of Middle East Studies 10 (Winter 79): 567-79; F.A. Clements, Oman: The Reborn Land (New York: Longman, 1980); George Lenczowski, The Middle East in World Affairs, fourth edition (Ithaca, NY: Cornell University Press, 1980): 682-88. Area Handbook for the Persian Gulf States (Washington, DC: American University Press, 1977); J.C. Wilkinson, "The Origins of the Oman State," in The Arabian Peninsula: Society and Politics, edited by Derek Hopwood (London: Allen & Unwin, 1972): 67-88.

13. COL Tony Jeapes, SAS Operation in Oman (London: Kimber, 1980).

14. Jeapes, op. cit., 139-41.

15. Jeapes, op. cit., 236.

16. Jeapes, op. cit., 161, 192-3.

17. Jeapes, op. cit., 192.

18. For studies of the background on the Soviet invasion and on Soviet interests in the region, see Henry Bradsher, Afghanistan and the Soviet Union (Durham, NC: Duke University Press, 1983); Richard Newell and Nancy Newell, The Struggle for Afghanistan (Ithaca: Cornell University Press, 1981); Mark Heller, "The Soviet Invasion of Afghanistan," Washington Quarterly (Summer, 1980): 36-59; Hanah Negaran, "The Afghan Coup of April 1978: Revolution and International Security," Orbis 23 (1978): 93-113; Alfred Monks, The Soviet Intervention in Afghanistan (Washington, DC: American Enterprise Institute, 1981).

19. See Claude Malhuret, "Report from Afghanistan," Foreign Affairs, Winter 83/84: 426-35. Alvin Rubinstein, "Adghanistan: Embraced by the Bear," Orbis, 26 (Spring 82): 135-53; COL Jerome Haggerty, "Afghanistan: The Great Game," Military Review 60 (Aug 80): 37-44.

20. See MAJ Joseph Collins, "The Soviet-Afghan War: The First Four Years," Parameters 14 (Summers, 1984): 49-62; MAJ Terry Heyns, "Will Afghanistan Become the Soviet Union's Vietnam?" Military Review 61 (Oct 81): 50=59; Edgar O'Ballance, "Soviet Tactics in Afghanistan," Military Review 60 (August, 1980): 45-52; "Afghanistan: Four Years of Occupation," (US State Dept: Special Report No. 112); Gregory D'Ehi and Charles Bork, "Afghan 101: Yale Journalists Tour Jihad Battlegrounds" Soldier of Fortune January 1984: 46-49, 86, 88-92. MSG Wm Beck, et. al., "Afghanistan: What Impact on Soviet Tactics," Military Review 62 (March 1982): 2-11.

21. MAJ Joseph Collins, "Soviet Military Performance in Afghanistan: A Preliminary Assessment," Comparative Strategy 4 (1983): 147-68; G. Jacobs, "The Years of Soviet War Operations Evaluated," Asian Defense Journal, December 1982: 34-36, 38-39, 43, 44-45; Jan Hogg, "Afghans Seize New Types of Soviet SMG," Jane's Defense Weekly, 28 January 1984: 101.

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26. Isby, op. cit.; Collins, op. cit.

27. Anthony Hyman, "Mujahidin Tactics," Islamic World Defence 3 (Jan-Mar 84): 20-25; Bradsher, op. cit., 218-26; Richard Newell, "Revolution ad Revolt in Afghanistan," The World Today, Nov 1979: 432-442.

28. Isby, op. cit.; Isby, "Afghanistan 1982: The War Continues," International Defense Review 11 (1982): 1523-28.

29. Ibid.; O'Ballance, op. cit.; Collins, op. cit. Various issues of Krasnaya Zvyzda also indicate Soviet interest, though this is generally expressed indirectly.

30. Ibid.

31. See Richard Gabriel, Operation Peace for Galliee: The Israeli PLO War in Lebanon (New York: Hill and Wong, 1984); Ze'ev Schiff and Ehud Ya'ari, Israel's Lebanon War (New York: Simon & Schuster, 1984); Dr. Karl Schnell, "Experiences of the Lebanon War," Military Technology, July 1984: 23-33; Anthony Cordesman, "The Sixth Arab-Israeli Conflict: Military Lessons for American Defense Planning," Armed Forces Journal International, Aug 1982: 29-32; day-to-day coverage of the invasion is dealt with in the New York Times, the Washington Post, and the Jerusalem Post.

32. On the background of the Lebanese situation, see Itamar Rabinovich, The War for Lebanon, 1970-1983 (Ithaca: Cornell University Press, 1984); Walid Khalidi, Conflict and Violence in Lebanon: Confrontation in the Middle East (Cambridge, MA: Harvard University Press, 1979).

33. Gabriel, op. cit.; Schiff and Ya'ari, op. cit.

34. Schiff, op. cit.

35. The literature on counterinsurgency is fairly uniform on this position. Also see Bard O'Neill, "Insurgency: A Framework to Analysis," O'Neill, et. al., op. cit., 1-42.

36. Rosen, "Vietnam . . . " op. cit.

37. *I have benefited from discussions with various Air Force LIC* experts, including COL Ray Stratton, COL John Roberts, and MAJ George Schriever. In addition, Jerome Klingaman of the Air War College has shared his vast experience and tried to educate a slow-learner. I have also benefited from his paper, "Light Aircraft Technology for Small Wars."

38. This is an overstatement, and does not take into account the AC-130; but as noted earlier, this does not fit the criteria of an inexpensive, easily-maintained platform able to operate out of unsophisticated fields. The AC-130 is fine for US ;use, but it puts us out of the market for coalition warfare if we are to train local forces and provide them with equipment they need.

39. "Principles of War and Low Intensity Conflict," unpublished papers, SSI, USAWC.

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INTELLIGENCE SUPPORT DURING LOW INTENSITY CONFLICT

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INTELLIGENCE SUPPORT DURING LOW INTENSITY CONFLICT

A. INTRODUCTION

1. Background

Intelligence support during low intensity conflict may post a significantly greater challenge than during nuclear or large scale conventional war. There are a finite number of nations which have the capability to wage nuclear or large scale conventional war, and the potential arenas for those conflicts are reasonably predictable. Since World War II, the major adversaries have been identified and each side has continuously gathered intelligence on the other. Each foe has considerable knowledge about the other which is constantly updated.

On the contrary, low intensity conflicts could ignite almost anywhere in the world, presenting a wide variety of potential theaters of operation, each with distinctively unique characteristics. Electronic Warfare (EW) may be used extensively to intensify the combat power of the smaller forces involved. It is also possible that the foe may employ Western weapons systems and tactics. These "environmental" differences impact the conduct of operations and affect the needs for intelligence, especially Electronic Support Measures (ESM) and Tactical Electronic Intelligence (ELINT). Events in the Middle East and South America have also demonstrated the need for increased Human Intelligence (HUMINT) in many cases.

2. The Problem

In the past, Low Intensity Conflicts have been replete with examples of long delays in the delivery of vital intelligence data, and more importantly, the omission or critical intelligence informa-

tion. At other times, the Air Component Commander has not been able to communicate in a timely manner with all participating air forces. Lieutenant General James Williams, Director of the Defense Intelligence Agency, has stated that other problems include:

a. Too much intelligence data in unuseable formats.

b. Overloaded command, control, communications, and intelligence (C^3I) circuits.

c. Lack of interoperability between manual and automatic C^3I systems.

d. Delays in processing raw intelligence inputs.

e. Inadequate crypto equipment or incompatible crypto systems.

f. Vulnerable C^3I systems.[1]

Major General James Pfautz, Assistant Chief of Staff for Intelligence, Headquarters United States Air Force, has said that, "The frustration of a generation of tactical commanders and weapons systems operators cannot be overstated and must be recognized as a starting point for those who develop procedures and build systems for combat intelligence support. In the past, intelligence has promised much, but delivered little of value to ongoing air operations." General Pfautz has also said that the dramatic progress being made in collection systems does not automatically equate to improved intelli-

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1 Signal, "INCA: The Issues and the Opporutnities," by Lieutenant General James Williams, USA, Armed Forces Communications and Electronic Association, Volume 39, Number 1, September 1984, pp.25-31.

gence support.[2] Ernest Volkman in a recent article in Military Science and Technology said, "The American intelligence community has a structural problem that inhibits its effectiveness."[3]

It is also obvious that rapid technological changes are requiring equally dramatic changes in air warfare tactics. These new systems and tactics depend on more effective and responsive intelligence support, if they are to be converted into greater combat capabilities.

3. Purpose

This paper will be limited to issues related to intelligence support for air operations and the Air Component Commander in a low intensity conflict. Low Intensity Conflict will be defined and the intelligence community involved will be highlighted. Next, existing intelligence capabilities will be discussed and the flow of intelligence information considered. An attempt will be made to define Low Intensity Conflict intelligence support requirements. Then ways to meet these intelligence requirements during low intensity conflict will be investigated, and a simplified intelligence model for low intensity conflict will be described.

B. DEFINITION OF "LOW INTENSITY CONFLICT"

The first issue that must be faced is to define a low intensity conflict. Since World War II, the United States has been involved in a series of conflicts in the developing world where U.S. interest have

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2 Signal, "Combat Intelligence Support to Tactical Air Operations", by Major General James C. Pfautz, USAF, Armed Forces Communications and Electronics Association, Volume 39, Number 1, September 1984, pp. 43-45.

3 Military Science and Technology, " God and Ice Water: The Problem with American Intelligence," by Ernest Volkman, ICDM of North America Inc., Volume 1, Number 1, February 1981, pp. 54-57.

been at stake. When requested, the U.S. Air Force (USAF) must be prepared to win these less visible, but important clashes. To accomplish this objective, some reorientation must take place. To the intelligence community, this means being able to provide better support for special operations forces, tactical air forces, and the Air Component Commander responsible for directing air operations in the area in question. In high intensity conventional warfare, success means winning the war. In low intensity conflict, success could mean accomplishing some national objective, or helping some friendly government stay in power. For example, an effective air strike directed by national authorities as a retaliation for some terrorist attack could be considered winning.

Other factors involved in defining a low intensity conflict involve the types of weapon systems used, the number of weapons employed, the density of the weapons environment, the force structures of the opponents, the potential for escalation, the players that are participating, and the political and military objectives. For the purpose of this paper, low intensity conflict will be defined as any conflict in a low density military environment short of major conventional warfare. By definition, this will include USAF support for anti-terrorist activities, special operations, unconventional warfare, and or minor conventional warfare. For example, low intensity conflict could include USAF support for the Iranian rescue mission or the Lebanon conflict. It might also include conflicts like the Falkland Islands, Grenada, or Chad. Needless to say, low intensity conflict does not include major conventional warfare, theater nuclear warfare, or strategic nuclear warfare. Figure 1 depicts the portion of the conflict continuum that constitutes low intensity warfare.

CONFLICT CONTINUUM

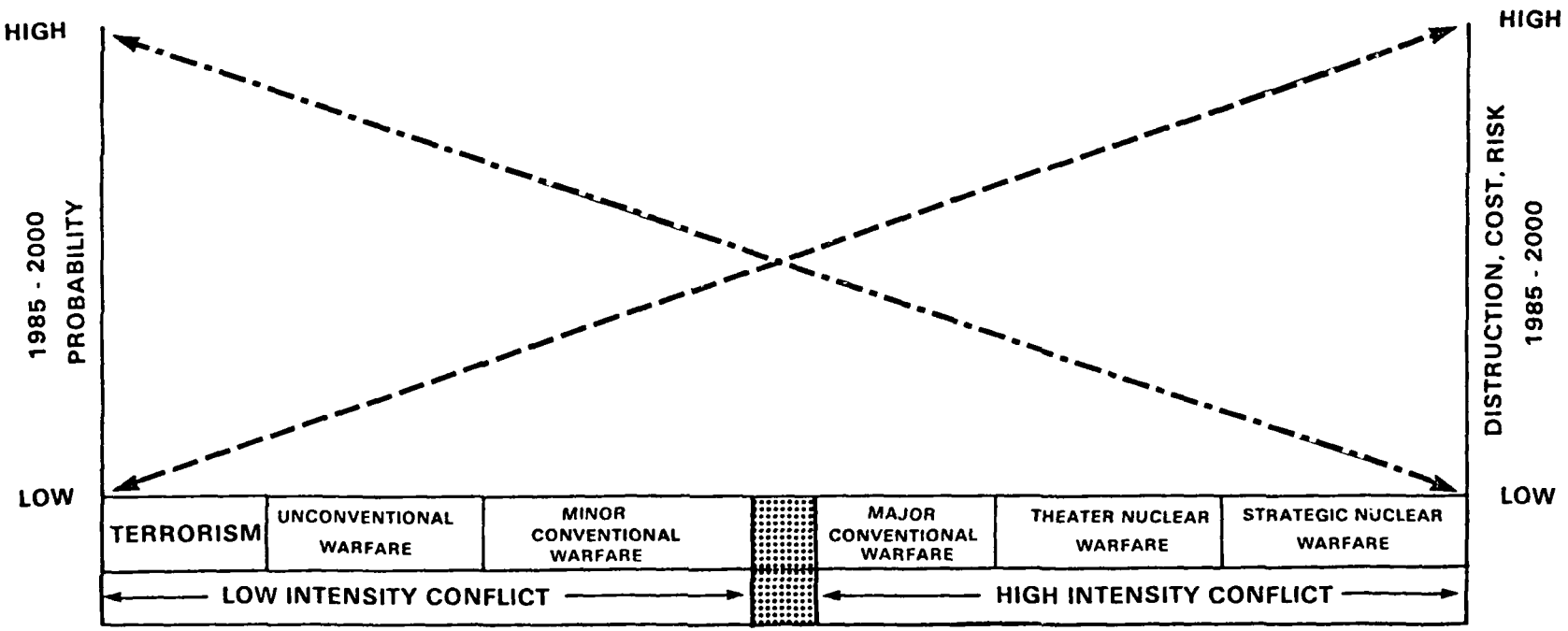

Figure 1

C. THE INTELLIGENCE COMMUNITY

1. General

To talk knowledgeably about intelligence support for low intensity conflicts, one must first consider the intelligence organizations involved. Because of the complex nature of low intensity conflict and the potential areas where it may occur, the entire intelligence community must be included in order to ensure comprehensive, timely, and effective support for the air forces that could be employed.

2. National-Level Intelligence Organizations

United States intelligence policy is ultimately defined, in the broadest terms, by the President, the National Security Council, and the Senate and House Select Committees on Intelligence. The further definition and implementation of that policy is the responsibility of the Director of Central Intelligence (DCI), in his dual roles as Director of the National Intelligence Community and the National Intelligence Council; assisted by the Secretary of Defense, the Secretary of State, the Secretary of Energy, the Secretary of the Treasury, and the Director of the Federal Bureau of Investigation. For the purposes, of this paper, only Department of Defense organizations will be discussed in some detail, but the other intelligence organizations must also be involved if intelligence support for USAF forces involved in low intensity conflict is to be effective and adequate. Figure 2 depicts national level organizations involved in intelligence activities.

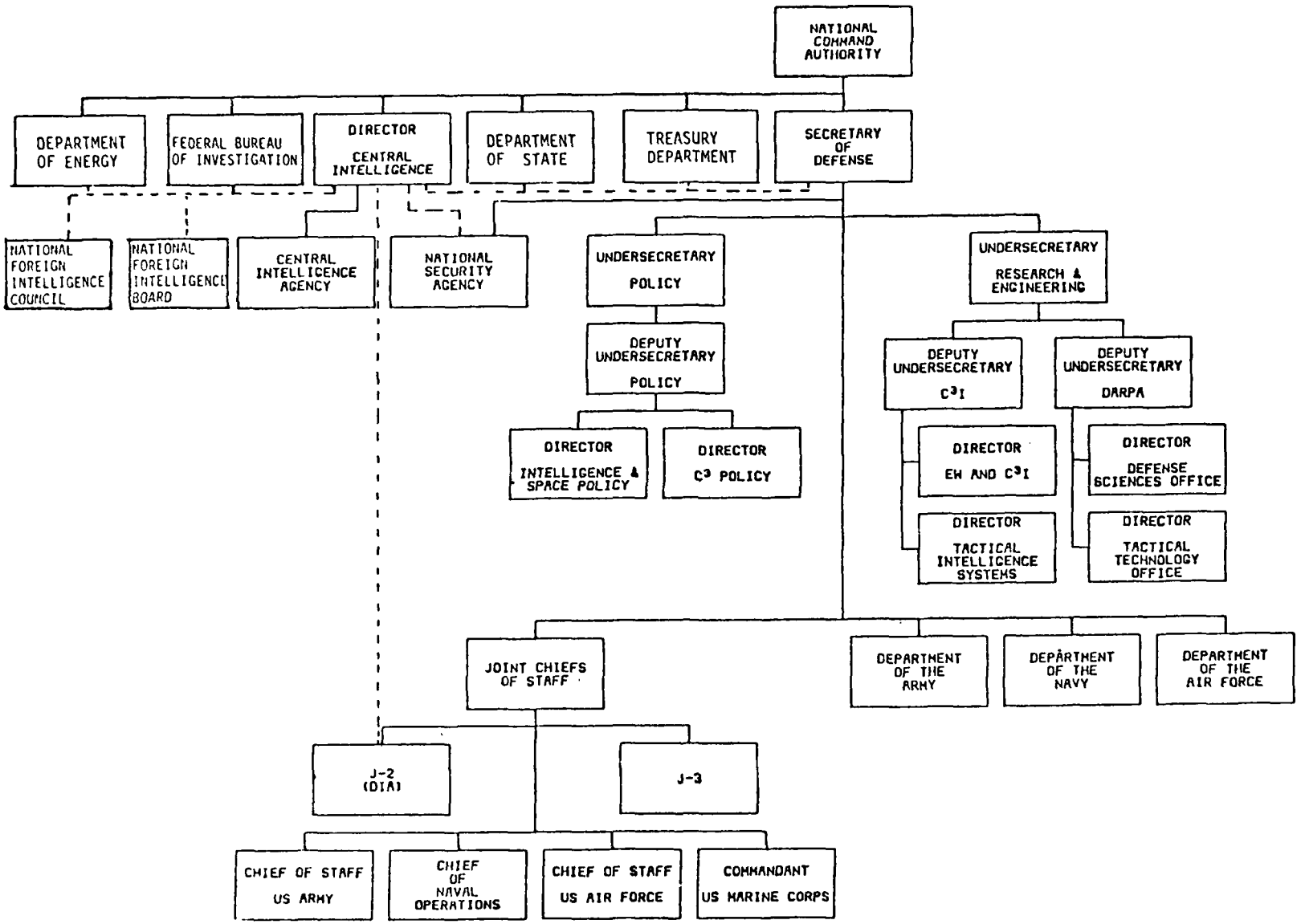

Figure 2

National Level Organizations Involved in Intelligence

a. National Security Agency

The National Security Agency (NSA), is the U.S. Agency tasked with technical intelligence collection, processing, and dissemination. This task falls to NSA in its role as the senior U.S. Signals Intelligence (SIGINT) authority. The Agency is under the organizational control of the Secretary of Defense and the mission control of the Director of Central Intelligence (National Intelligence Community and Council). NSA manages SIGINT support for all elements of the Department of Defense involved in tactical and strategic intelligence research, development, and operations. This support extends across both service and agency lines and emphasizes close, integral relationships with service and agency intelligence staffs. NSA also provides communications security support to all agencies of the U.S. Government.

b. Office of the Secretary of Defense (OSD)

Intelligence activities in OSD are focused in the organizations of the Undersecretary of Defense (USD) for Policy and the Undersecretary of Defense for Research and Engineering. The USD for Policy's Directors for Intelligence and Space Policy and C^3 Policy (Strategic C^3 and Intelligence) are tasked with defining National Intelligence policy as it pertains to the military services and agencies. The USD for Research and Engineering, on the other hand, translates those policies into technological studies, analyses and programs. His Deputy USD for C^3I is responsible for C^3I, Electronic Warfare (EW), and Tactical Intelligence Systems. The Deputy USD directing the Defense Advanced Research Projects Agency (DARPA) is tasked with studies and analyses of the intelligence aspects of advanced defense sciences and tactical technologies designed to minimize the possibility of technical surprise and to seek major increases in additional defense capabilities.

c. Joint Chiefs of Staff

Intelligence activities within the Organization of the Joint Chiefs of Staff (OJCS), are focused in the Intelligence and Operations areas: The Defense Intelligence Agency (DIA) (the "J2" of the OJCS), and the J3 (Directorate of Operations). A third, relatively new joint agency, The Joint Electronic Warfare Center (JEWC) is under the direction of the Commander, Air Force Electronic Security Command.

1) Defense Intelligence Agency

DIA is the intelligence support directorate for the JCS. Its primary mission is to produce and disseminate military intelligence to satisfy the intelligence requirements of the Secretary of Defense, the JCS, and the major components of the Department of Defense. Where NSA is the senior U.S. SIGINT Agency, DIA is the senior U.S. military agency tasked with overall management of the human (HUMINT), imagery (IMINT), and technical intelligence collection, processing and reporting operations in the four military services. These sources directly support DIA's mission of assessing the capabilities of a hostile nation to conduct operations against the U.S., or to guard their own resources against U.S. operations. While DIA does not direct the services' SIGINT operations, it supports and has close working relationships with NSA and the other member agencies of the U.S. Intelligence Community in the areas of indications and warning, threat assessments and targeting. The Deputy Directors for Foreign Intelligence, Intelligence and External Affairs, and Management and Operations, and the Assistant Director for Resources and Systems, are each responsible for various aspects of DIA's support to the OJCS, the Services, and the Intelligence Community.

2) OJCS J3 (Directorate of Operations)

The J3 Directorate is the senior U.S. authority for military operations. The J3's Reconnaissance, Space, Electronic Warfare, and C^3 Countermeasures Deputate is responsible for the operational aspects of the worldwide intelligence programs mounted by the services on a day-to-day basis.

3. Military Service-Level Intelligence Organizations

a. U.S. Army

1) Secretary of the Army

Intelligence activities in the Office of the Secretary of the Army are centered in the Office of the Assistant Secretary for Research, Development, and Acquisition.

The Deputy Assistant Secretaries for Air and Missile Defense Systems, C^3I, and Science and Technology are tasked with Department-level oversight of developing technologies as they apply to the army mission, and particularly to the intelligence aspects of that mission.

2) Chief of Staff U.S. Army

In the Chief of Staff's office, several organizations deal directly with intelligence in support of the operational forces as shown in Figure 3. In the office of Deputy Chief of Staff (DCS)/Operations and Plans, the Force Development Directorate is tasked with developing plans and operations for intelligence, surveillance, target acquisition and EW, as well as oversight of high technology applications to the current and projected force structures.

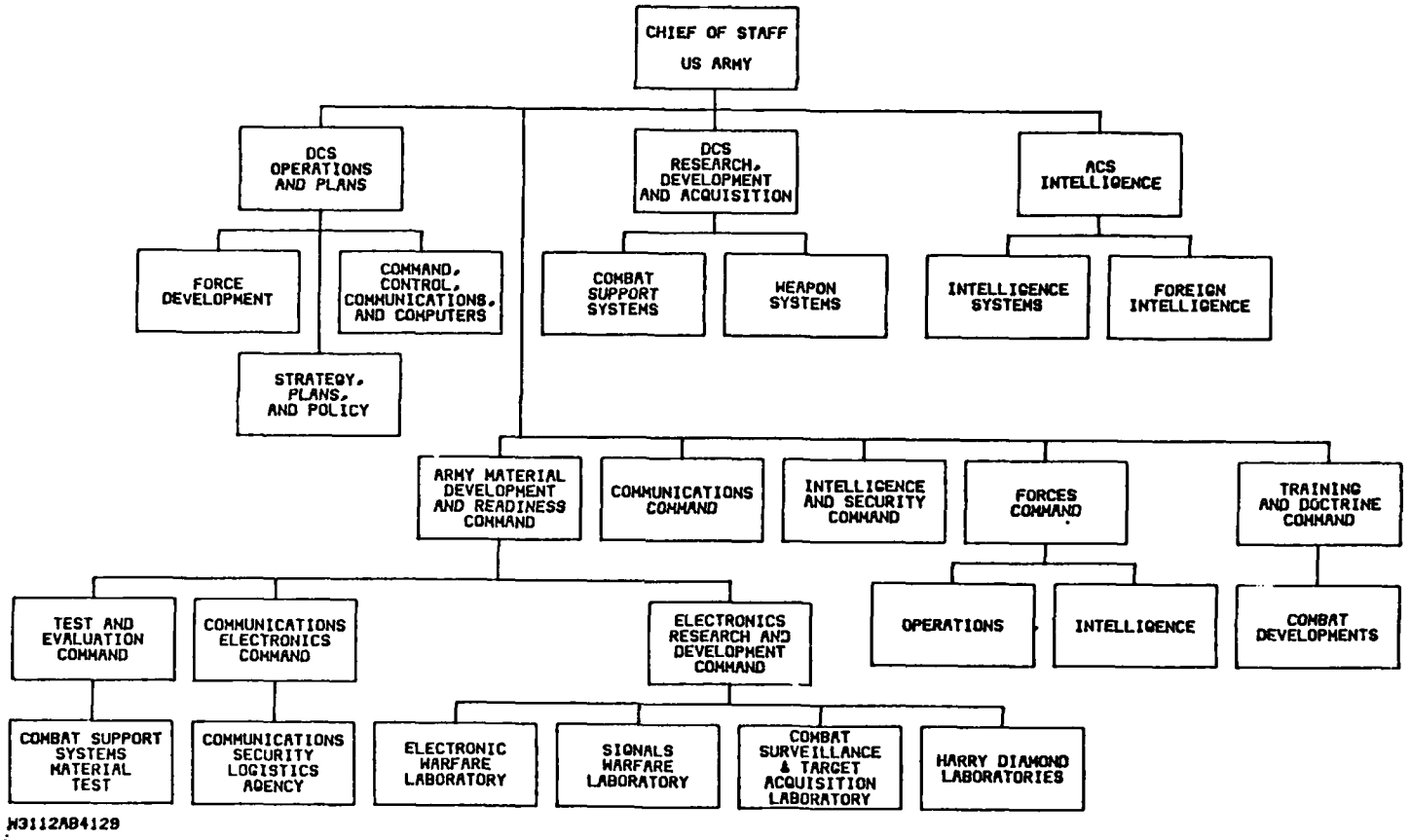

Figure 3 Army Organizations Involved in Intelligence

The Command, Control, Communications, and Computers Directorate includes a Spectrum Management Office, tasked with maintaining oversight of Radio Frequency Spectrum utilization and electromagnetic compatibility at all levels of the Army structure.

The Assistant Chief of Staff (ACS)/Intelligence provides direct support to the Chief of Staff and DCS/Operations and Plans in the form of analysis and appraisals of hostile forces' capabilities, as well as the day-to-day capabilities of Army forces involved in intelligence operations. The ACS/Intelligence also provides intelligence resources management support to all Army intelligence collection and processing units in the field. The Intelligence and Threat Analysis Center (ITAC), recently resubordinated to the ACS/I from the Intelligence and Security Command (INSCOM) is the Army's general intelligence production center, conducting ground force capabilities studies, imagery interpretation, threat analyses, and counterintelligence analyses.

The Combat Support Systems Directorate of the DCS/Research, Development and Acquisition maintains an Electronic Warfare Team under the Chief of Command, Control and Surveillance Systems. The Team maintains direct oversight of all EW research and development activities underway at the several Army laboratories, as well as responding to and assisting in the definition of requirements of the Army commands. The Aviation Systems and Missile and Air Defense Systems organizations in the Directorate for Weapons Systems also are involved in EW systems requirements definition from the overall systems aspect (e.g., airborne platform versus individual sensor system, or air defense missile versus electronic seeker head).

3) U.S. Army Commands

a) Army Material Development and Readiness Command (DARCOM)

The Army's DARCOM is responsible for research, development, test and evaluation, acquisition, and deployment of EW systems. Its three subordinate commands are: Test and Evaluation (TECOM), Communications Electronics (CECOM), and Electronics Research and Development (ERADCOM). Of the three, ERADCOM is the most deeply involved in intelligence systems.

1. ERADCOM

ERADCOM is the Army's major agency tasked specifically with research and development in electronics. The level of importance of intelligence and EW in the command is reflected in the immediate subordination of an independent Associate Technical Director for Electronic Warfare and Intelligence to the staff of the Commanding General. This priority is maintained throughout the command. The Directorate of Countermeasures includes a Counter-Countermeasures Center which focuses on radar and communications, applications of current and emerging technologies to the ECCM problem, and also technological applications for the Intelligence Community. The emphasis on intelligence and EW continues across the ERADCOM Staff. The Programs and Operations Directorate is the Command's management and coordination agency for all R&D programs; while the Project Management staff includes managers for advanced artillery-finding sensors, remote battlefield sensors, the target attack radar system, and combat identification systems.

ERADCOM's intelligence and EW focus, however, is on its laboratories. The Electronic Warfare Laboratory is involved in the research and development of EW counter-measures concepts, engineering, and protection; ground electronic warfare; airborne electronic warfare; electromagnetic vulnerability and electronic counter-countermeasures; missile electronic warfare; intelligence material development and support; air defense vulnerability systems; surface target missiles; and advanced technology applications to EW signatures, concepts and airborne EW. The Signals Warfare Laboratory concentrates on signals research, communications-electronic warfare, and automated systems applications to EW. The Harry Diamond Laboratories is involved in advanced electronics systems development including radar, radiation effects, electromagnetic effects, fuse development, and ordnance electronics development. ERADCOM's Combat Surveillance and Target Acquisition Laboratory concentrates its resources on the research, development and production of radars, and other special sensor systems. Other ERADCOM laboratories include the Night Vision and Electro-optics Laboratory, involved in visionics and the Atmosphere Sciences Laboratory, conducting research into atmospheric effects.

2. Communication Electronics Command (CECOM)

CECOM is involved in intelligence primarily from a logistics standpoint: procurement, maintenance engineering, and special product and equipment support.

3. Test and Evaluation Command (TECOM)

TECOM conducts test and analysis operations in conjunction with intelligence systems development: command, control, communications, and intelligence systems in a simulated battlefield electromagnetic environment.

b) U.S. Army Communications Command (ACC)

ACC, as a "user" organization, is involved in intelligence primarily in the defensive sense: employing defensive systems and techniques to preclude communications intercept and analysis, and jamming.

c) U.S. Army Intelligence and Security Command (INSCOM)

The successor of the former Army Security Agency, INSCOM is the Army's senior command for intelligence, security and EW (ISEW) units at echelons above corps (EAC), both in the Continental United States (CONUS) and at some overseas locations. These units support national, departmental, strategic and tactical requirements including the collection, production and dissemination of multidisciplined intelligence; counterintelligence, and EW planning and coordination. At Corps echelon and below, military intelligence units engaged in EW operations, formerly subordinated to INSCOM, are consolidated into Combat Electronic Warfare Intelligence (CEWI) battalions, which are now subordinate to combat division commanders, and are currently being consolidated further into military intelligence (MI) groups.

d) U.S. Army Forces Command (FORSCOM)

FORSCOM is the major Army CONUS-based combat force. Its primary mission is the improvement and maintenance of the readiness of deployable forces - in this instance, the newly formed CEWI battalions and MI (CEWI) groups. DARCOM, TRADOC and INSCOM are close collaborators with FORSCOM in maintaining the command's operational intelligence and EW capabilities.

1. U.S. Army Training and Doctrine Command (TRADOC)

TRADOC's involvement in intelligence and EW is in the areas of development of tactical doctrine and in the training of intelligence and EW personnel.

a. EW training and doctrine is the responsibility of the EW Directorate which is TRADOC's focal point for EW concepts, doctrine, training development, training, and evaluation. From an EW systems standpoint, the Directorate's emphasis is primarily on the detection, location, and exploitation of moving enemy targets through imagery intelligence (IMINT), and analysis of enemy EW systems for exploitation in electronic countermeasures and counter-countermeasure operations. The EW courses stress both defensive and offensive EW in the development and employment of EW tactics on the battlefield.

b. U.S. Army Intelligence School, Fort Devens (USAISD)

USAISD is involved in both tactical and strategic intelligence operations, systems operation, management, and maintenance. Detachments of USAISD concentrate on advanced individual analytic training in such areas as traffic analysis and collection techniques.

4) The Combat EW Intelligence (CEWI) Support Organization

The CEWI concept is an outgrowth of the Army's EW experiences in the Vietnam conflict. An EW unit in the field, tasked by and responsive to agencies and major commands outside the combat area, could not respond adequately or rapidly to the immediate needs of the commander in the field. The CEWI concept removes those EW units from Agency or Major Command (MAJCOM) control, and subordinates them to the tactical commander.

The new organizational structure includes the Military Intelligence (MI) (CEWI) group, tasked with direct EW support to the Corps Commander; the CEWI battalion, tasked to support the Division Commander; and CEWI companies, assigned to separate brigades or armored cavalry regiments. The MI (CEWI) Group is composed of three battalions: operations, tactical exploitation, and aerial exploitation. This organization provides the Corps Commander with a single mechanism for translating his essential elements of information (EEI) and requirements into a responsive tasking, collection, analysis, dissemination, and operations unit. The MI Group possesses communications, electronic intelligence platforms, and a technical control and analysis center (TCAC) automated processing function. The Army is presently exploring methodologies for automated data processing support for intelligence and EW analysts.

The CEWI Battalion at division level is a true combat support unit, providing the tactical commander with both the "see through" provided by SIGINT operations, and the offensive/defensive capabilities provided by jamming. The Battalion's four companies are involved in headquarters/operations, electronic warfare, ground surveillance, and service/support. The Battalion's equipment includes communications intelligence and electronic intelligence systems, direction-finding equipment, jamming systems, and the communications systems required for responding immediately to division level tasking or for inputting data to the division's fire elements.

The ultimate goal of the CEWI concept is the elimination of the time delays inherent in the deployment of separate systems for each intelligence discipline and the application of outputs from those systems to the targeting of enemy forces.

b. U.S. Navy/U.S. Marine Corps

1) Office of the Secretary of Navy

At the Secretariat level, intelligence matters are the venue of the Assistant Secretary for Research, Engineering and Systems, and of the subordinate Office of Naval Research. These organizations provide the Secretariat oversight of intelligence plans and programs from an R&D standpoint, and provide overall direction for the development of Naval and Marine Corps intelligence systems.

Office of Naval Research (ONR)

ONR is tasked with supporting basic research and technology development, in this case in the broad spectrum of sciences from which Naval intelligence derives its technology and applications, and in projecting future Naval intelligence requirements. ONR's scientific Directorate's support both current applications of and research into electronics and electromagnetics, physics, and surface and underwater intelligence and EW. Its Director, the Chief of Naval Research, also maintains a Science Advisor for the Naval Intelligence Command (NAVINTCOM).

Naval Research Laboratory (NRL)

The NRL is directly subordinate to the Chief of Naval Research (CNR). A high percentage of the Laboratory's programs are electronics-associated, and many of these involve intelligence and EW application in the areas of Material Science and Component Technology, Space and Communications Technology, and Systems Research and Technology.

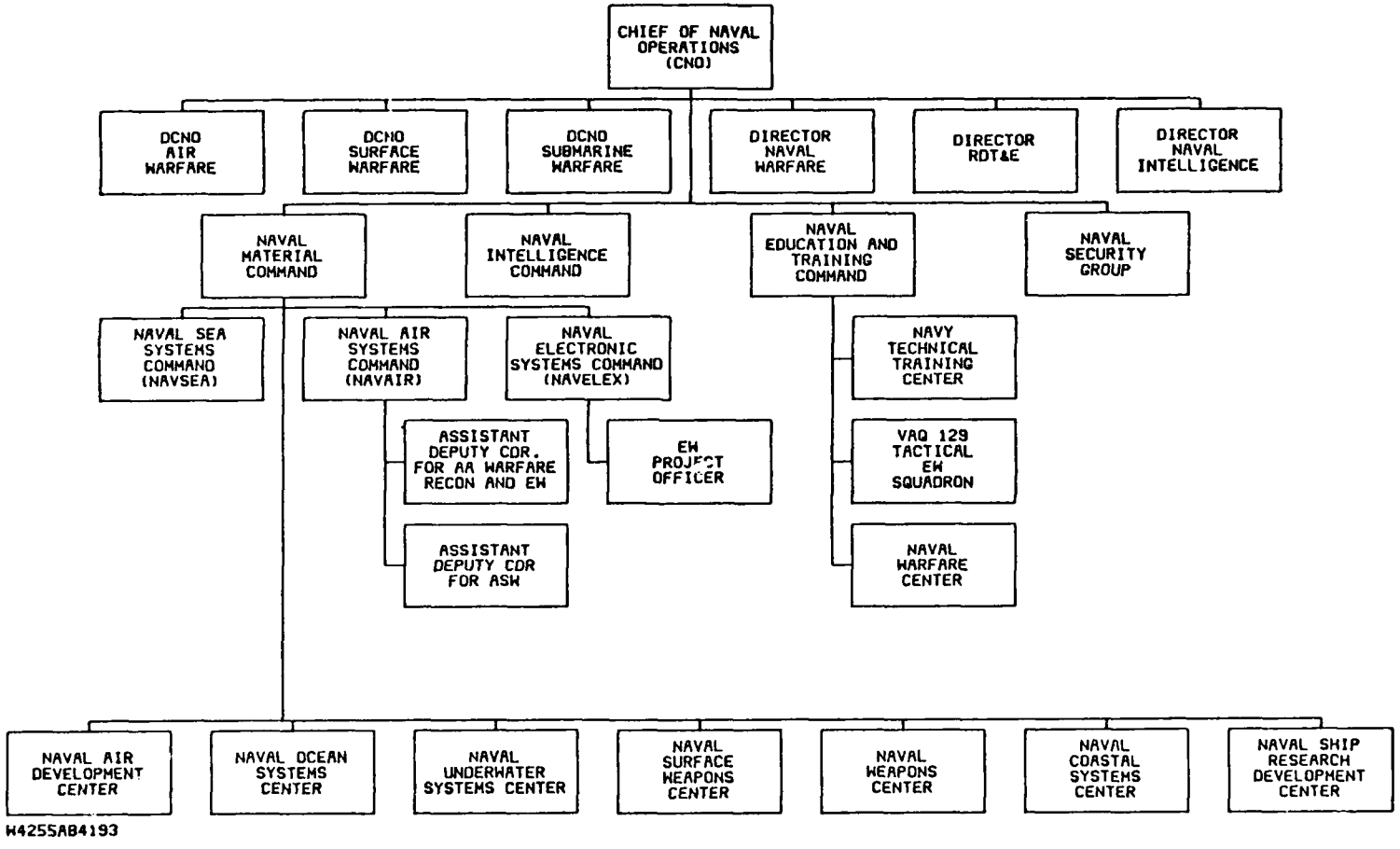

Figure 4 Navy Organizations Involved in Intelligence

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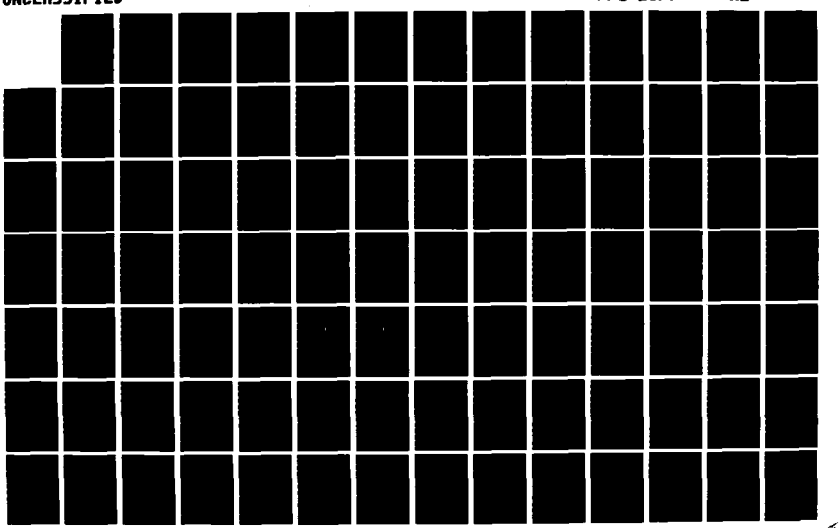

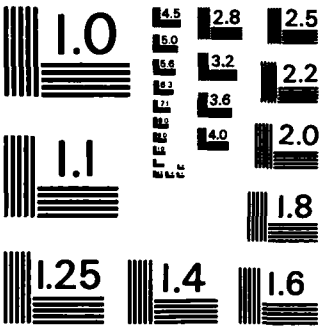

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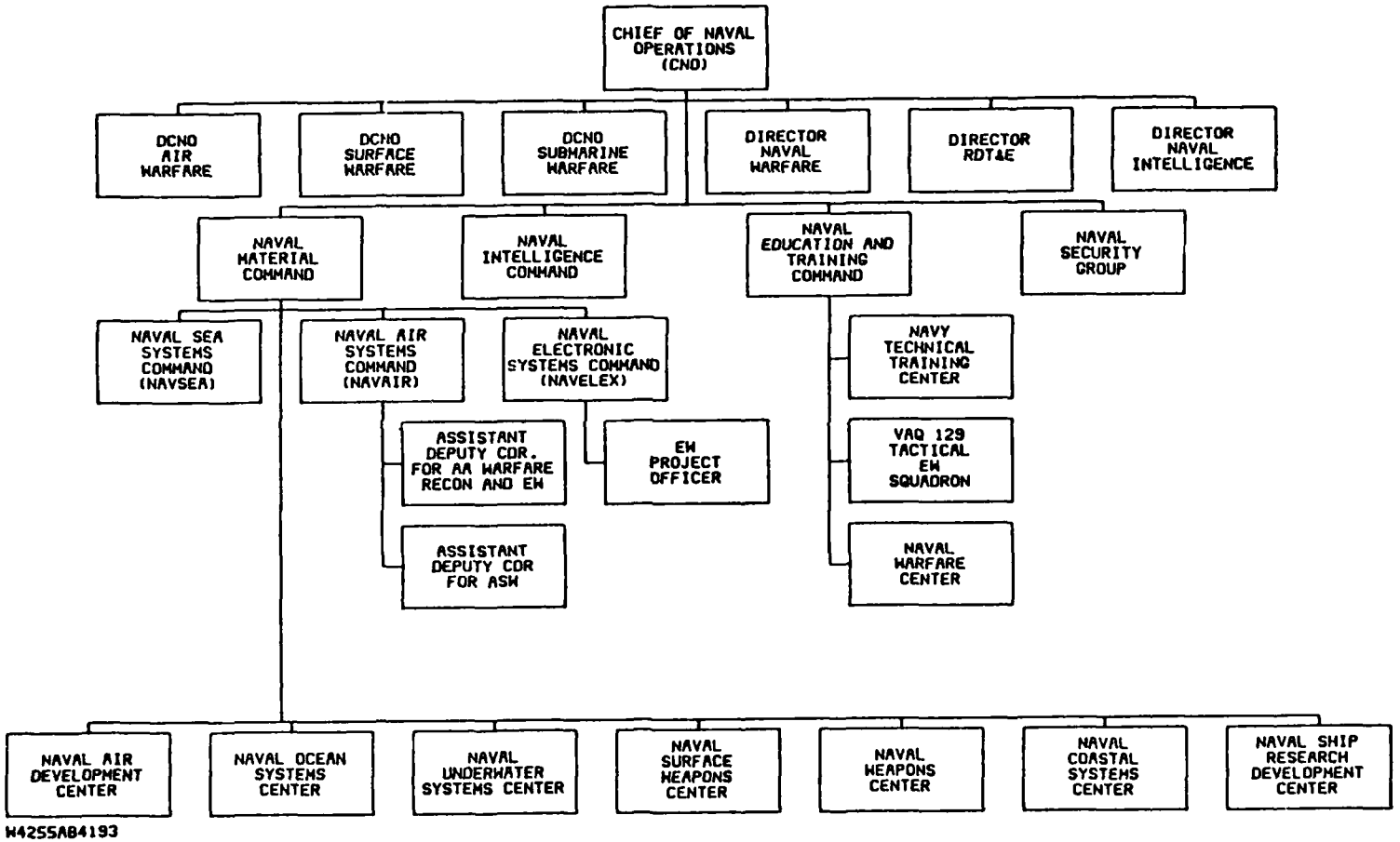

Figure 4 Navy Organizations Involved in Intelligence

The Director of Research, Development, Test and Evaluation (RDT&E) is responsible for the Navy's RDT&E efforts in all areas of intelligence and EW: undersea and strategic warfare, nuclear energy, tactical air, surface and electronic warfare, command and control systems technologies, and for planning and programming all intelligence and EW projects in the R&D arena.

The Director of Naval Intelligence (NAVINT) staff is responsible for maintaining cognizance of the intelligence capabilities of hostile and potentially hostile naval forces. The Director is the Navy's senior intelligence authority and is tasked with oversight of all Navy intelligence collection and processing operations, particularly as they interface with the Navy's C^2 architecture and systems. He also represents the Navy to the Intelligence Community and provides staff guidance to the Naval Intelligence Command (NAVINTCOM) and the Naval Security Group (NAVSECGRU).

3) Naval Material Command - Chief of Naval Material (CNM)

The CNM commands and is responsible for providing material support to the Naval Systems Commands (SYSCOMs), including the maintenance of logistics, strategic systems, and R&D centers. This support includes research and development, test and evaluation, contracting, acquisition, logistical support, and the maintenance of system specific Project Offices for Strategic Systems, Trident, Antisubmarine Warfare, Theater Nuclear Warfare, and Joint Cruise Missiles (JCMP). CNM's R&D centers involved in intelligence and EW include the Naval Air Development Center (NADC), Naval Ocean Systems Center (NOSC), Naval Underwater Systems Center (NUSC), Naval Surface Weapons Center (NSWC), Naval Weapons Center (NWC), the Naval Ship Research and Development Center (NSRDC), and the Naval Coastal Systems Center (NCSC).

a) Naval Air Development Center (NADC)

The NADC conducts research and development of intelligence and EW systems for integration with airborne platforms.

b) Naval Ocean Systems Center (NOSC)

The NOSC conducts R&D in a variety of intelligence and EW technologies impacting on surface and undersea combat operations.

c) Naval Weapons Center (NWC)

NWC is the Navy's major engineering center for weapons development, test and evaluation. As a result, intelligence and EW cuts across virtually all the following departments of the Laboratory and Test and Evaluation Directorates: Aircraft Weapons Integration, Fuze and Sensor, Electronic Warfare, Research, and Weapons.

d) Naval Underwater Systems Center (NUSC)

The NUSC's line directorates are, with few exceptions, engaged in intelligence and EW intensive systems development: submarine and surface ship sonar systems, submarine electromagnetic systems, torpedo targeting and guidance systems, combat control systems, and test and evaluation.

e) Naval Costal Systems Center (NCSC)

NCSC's intelligence and EW focus is on the development of coastal surveillance sensors and countermeasure systems.

f) Naval Ship Research Development Center (NSRDC)

The NSRDC's interest in intelligence and EW is centered in its Ship Acoustics Directorate. This directorate conducts research in acoustics vibrations, sonar systems, and acoustics silencing technologies.

g) Naval Surface Weapons Center (NSWC)

NSWC conducts research and development in several intelligence and EW areas: tactical and special intelligence and EW systems, command support systems, search and track, and electromagnetic/nuclear effects. The studies and analyses in these areas are applied to other research programs involving weapon guidance and fuzing systems.

4) U.S. Naval Systems Commands (SYSCOMs)

a) Naval Sea Systems Command (NAVSEA)

NAVSEA is responsible for physical aspects of all seagoing Naval resources: surface and underwater. These responsibilities include ship design, engineering ship building;acquisition; follow-on logistics; antiair and surface weapons; antisubmarine (ASW) and undersea warfare. This includes programming of and provisioning for surface and undersea sensor assets, as well as for jammers and offboard expendables.

b) Naval Air Systems Command (NAVAIR)

In contrast to NAVSEA, NAVAIR has established an Assistant Deputy Commander for Antiair Warfare, Reconnaissance, and EW Projects, and also maintains an Assistant Deputy Commander for ASW and Support Projects. These officers maintain NAVAIR control of all intelligence and EW programs involving airborne systems: avionics; active and passive EW; surveillance and tracking radar; SIGINT, IMINT, jamming, and deception systems; air-to-air and air-to-ground weapons and guidance systems.

c) Naval Electronic Systems Command (NAVELEX)

The NAVELEX is tasked with the development, purchase, support and integration of electronic systems for the Navy and the Marine Corps. This SYSCOM's venue includes all areas of C^3, as well as space, EW, electronic support measures (ESM), and underwater surveillance programs. In short, NAVELEX is "intelligence intensive." Those command project offices involved in EW systems include the Navy Space Project (PME 106), Joint Tactical Information Distribution Systems (JTDIS) (PME 109), Communications Systems (PME 110), Command Systems (PME 120), Undersea Surveillance System (PME 124), Marine Corps System Project (PME 154), and Reconnaissance, Electronic Warfare, Special Operations, and Naval Intelligence Programs (PME 107).

5) Naval Intelligence Command (NAVINTCOM)

NAVINTCOM is the Navy's senior command for the support of National, departmental, strategic and tactical intelligence requirements. This includes the collection, production, and dissemination of all source, multi-disciplinary intelligence, counter-intelligence (including OPSEC), and EW planning and program coordination.

6) Naval Security Group (NAVSECGRU)

NAVSECGRU is responsible for operating and maintaining the Navy's worldwide SIGINT resources, ashore, afloat, and airborne. In addition to National level tasking, the command supports the strategic and tactical intelligence requirements of the CNO, the Chief of Naval Intelligence, the commands, and fleets.

7) Naval Education and Training Command (CNET)

CNET's extensive training operations include both electronics, intelligence, and EW specific courses of instruction in shipborne, airborne, and shore based operations.

Navy Technical Training Center (NTTC)

At the NTTC, personnel receive extensive training in the operation, maintenance, and management of intelligence and EW systems. Courses include shipborne, airborne, undersea, and shore-based systems and operations, including tactics and strategy and resources management. Graduates of these courses are assigned to intelligence and EW positions with surface, air, shore or submarine units. The NTTC also conducts Joint Service basic and advanced collection courses. Graduates of these courses also are assigned to operational surface or air units.

c. U.S. Air Force

1) Office of the Secretary of the Air Force (SAF)

Intelligence oversight at the Secretariat level is concentrated in the staff of the Assistant Secretary for Research, Development and Logistics. The Deputy Assistant Secretariat for Sys-

tems includes Deputates for Tactical and Strategic Systems, Strategic Requirements, and Advanced Technology, while the Deputy Assistant Secretariat for Acquisition Management includes special assistants for both the E-3A AWACS and the F-16 tactical fighter bomber. Air Force organizations involved in intelligence activities are shown in Figure 5.

2) Chief of Staff, U.S. Air Force (AF/CC)

a) Deputy Chief of Staff (DCS)/Plans and Operations (XO)

AF/XO is heavily intelligence and EW-oriented. The Director of Space (XOS) is tasked with definition and oversight of all AF space system requirements, including communications, surveillance, and Space Transportation System (STS) ("Space Shuttle") operations, and the impact of intelligence and EW on such systems. The Director of Plans (XOX) is tasked with defining Force Development and Doctrine, and Strategy and Plans Integration having a direct impact on AF's future capabilities to conduct intelligence and EW operations. The Director of Operations (XOO) has oversight of all current AF flying operations, strategic and tactical, conducted by operational units. These include the full spectrum of AF combat, combat support, and reconnaissance aircraft equipped for intelligence and EW operation. The Director of Electromagnetic Combat (XOE) defines, plans, and programs the AF's conduct of EW operations, both airborne and ground based, and advises the Chief of Staff on the establishment and maintenance of AF EW policy.

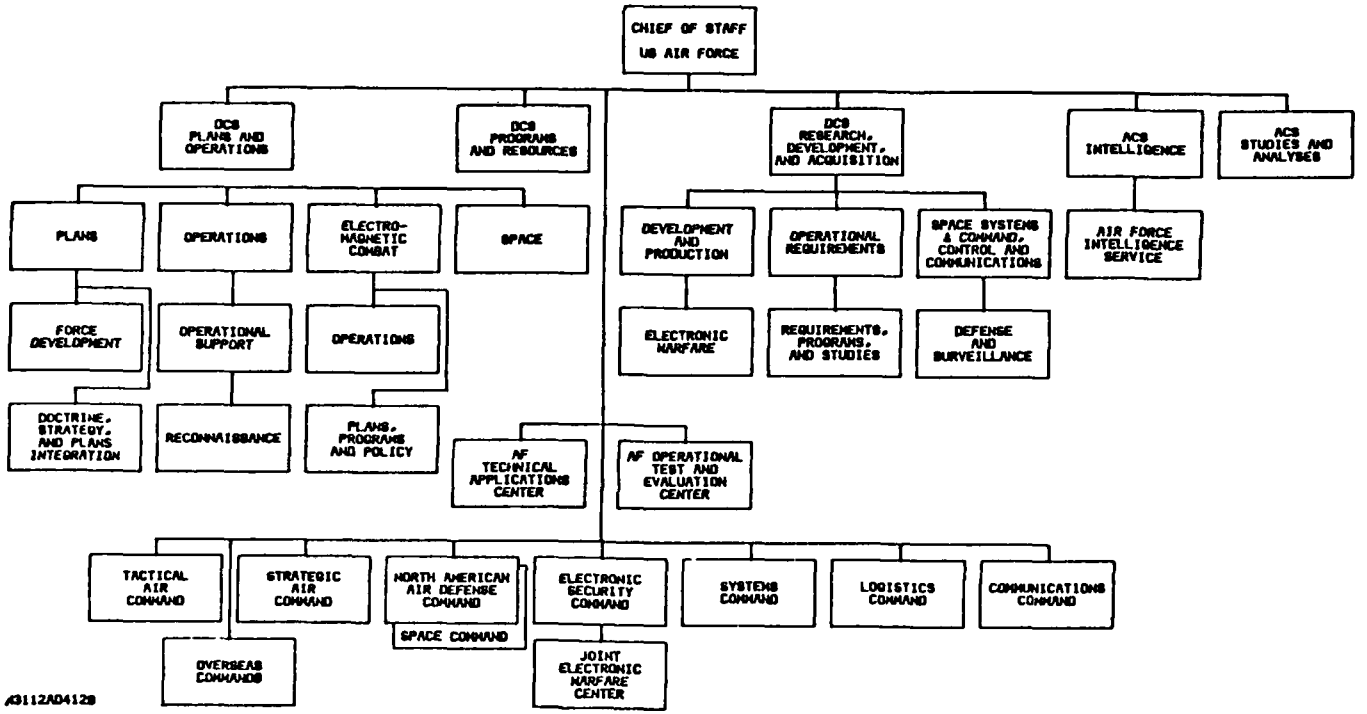

Figure 5 Air Force Organizations Involved in Intelligence

b) DCS/Research, Development and Acquisition (RD)

AF/RD is responsible for the establishment of requirements for, and oversight of, the expansive R&D programs conducted throughout the AF, particularly those of the Air Force Systems Command. The Director of Development and Production (RDP) is responsible for directly monitoring all R&D efforts and production of items developed in response to AF requirements. The Director of Operational Requirements (RDQ) is responsible for validating the AF R&D requirements received from the user commands and agencies. RDQ also conducts studies in support of those commands and agencies to assist in the establishment of R&D requirements and programs. All AF EW R&D operational requirements are validated through RDQ. The Director of Space Systems and C^3 (RDS) validates all AF requirements concerning R&D of space systems and command, control and communications systems. (RDS works closely with XOS on all matters pertaining to defense and surveillance space operations, particularly the EW implications of such operations.)

c) DCS/Programs and Resources (PR)

AF/PR is responsible to the Chief of Staff for the establishment of all AF programs and the ongoing evaluation of those programs through the Director of Programs and Evaluation (PR). These include both R&D efforts (in conjunction with RD), operational programs (in collaboration with XO), and the dedication of AF resources to those programs. PR, then, has a direct impact on the establishment of AF intelligence and EW programs from their inception to the fielding of an operational system. The Director of International Programs (PRI) exercises similar oversight of all intelligence and EW programs in which the AF collaborates with a foreign air force or an organization.

d) Assistant Chief of Staff (ACS)/Intelligence (IN)

AF/IN provides direct support to the Chief of Staff and the Air Staff in the form of analyses and appraisals of threat force capabilities, and the day-to-day capabilities of Air Force resources involved in intelligence operations. IN also provides resources management support to all AF intelligence collection and processing units in the various CONUS and overseas commands. The IN also serves as the AF liaison with the other members of the U.S. Intelligence Community and exercises control of the AF Intelligence Service (AFIS). AFIS, in turn, is responsible for collection management (tasking) of certain AF intelligence units, and the collection, analysis, appraisal, and dissemination of intelligence information to authorized recipients.

e) ACS/Studies & Analyses (SA)

AF/SA studies and analyzes the capabilities of AF resources worldwide. SA weighs those capabilities against current and projected strategic and tactical threats in order to assist the Air Staff and the Commands in the establishment and validation of near and long term requirements. The Directorate for Theater Force Analyses' Tactical Systems Division, and the Directorate for Strategic Force Analyses' Command and Control and Reconnaissance Division both conduct analyses of U.S. and threat EW system capabilities, current and projected, to assist the Tactical Air Command, Strategic Air Command, and Space Command in defining their projected intelligence and EW requirements.

3) AF Separate Operating Agencies

a) Air Force Intelligence Service (AFIS)
(See ACS/Intelligence (IN), c, 2), d) above.)

b) Air Force Operational Test and Evaluation Center (AFOTEC)

AFOTEC - Formerly AFTEC - is responsible for testing and evaluating all systems under consideration for acquisition by the Air Force. Directly subordinate to the Chief of Staff, AFOTEC acts as an independent assessment agency to provide AF decision-makers with data on systems as they proceed through the acquisition cycle. These assessments apply to intelligence and EW systems, platforms, support systems, and weapon systems. AFOTEC operates detachments in the CONUS and in Europe, and maintains test and evaluation teams at operating locations worldwide.

c) Air Force Technical Applications Center (AFTAC)

Although AFTAC reports directly to the Chief of Staff, it is a DOD-specified mission organization tasked with the detection, location and identification of nuclear events in the atmosphere, in space, and underground. For this purpose, the Center operates and maintains the U.S. Atomic Energy Detection System (AEDS) in the CONUS and at operating locations in other countries. While the intelligence implications of AFTAC's AEDS are obvious, no further information is available.

4) USAF Major Commands

a) Tactical Air Command (TAC)

The advancements in electronic technologies since the 1950s, particularly as they apply to tactical aircraft avionics, sensors (including radar), data processing and communications, have made tactical air warfare intelligence and EW-intensive. This situation, and its implications for TAC, will only increase for the foreseeable future, and TAC is organized to exploit any intelligence and EW advancement as it occurs. TAC organization is depicted in Figure 6.

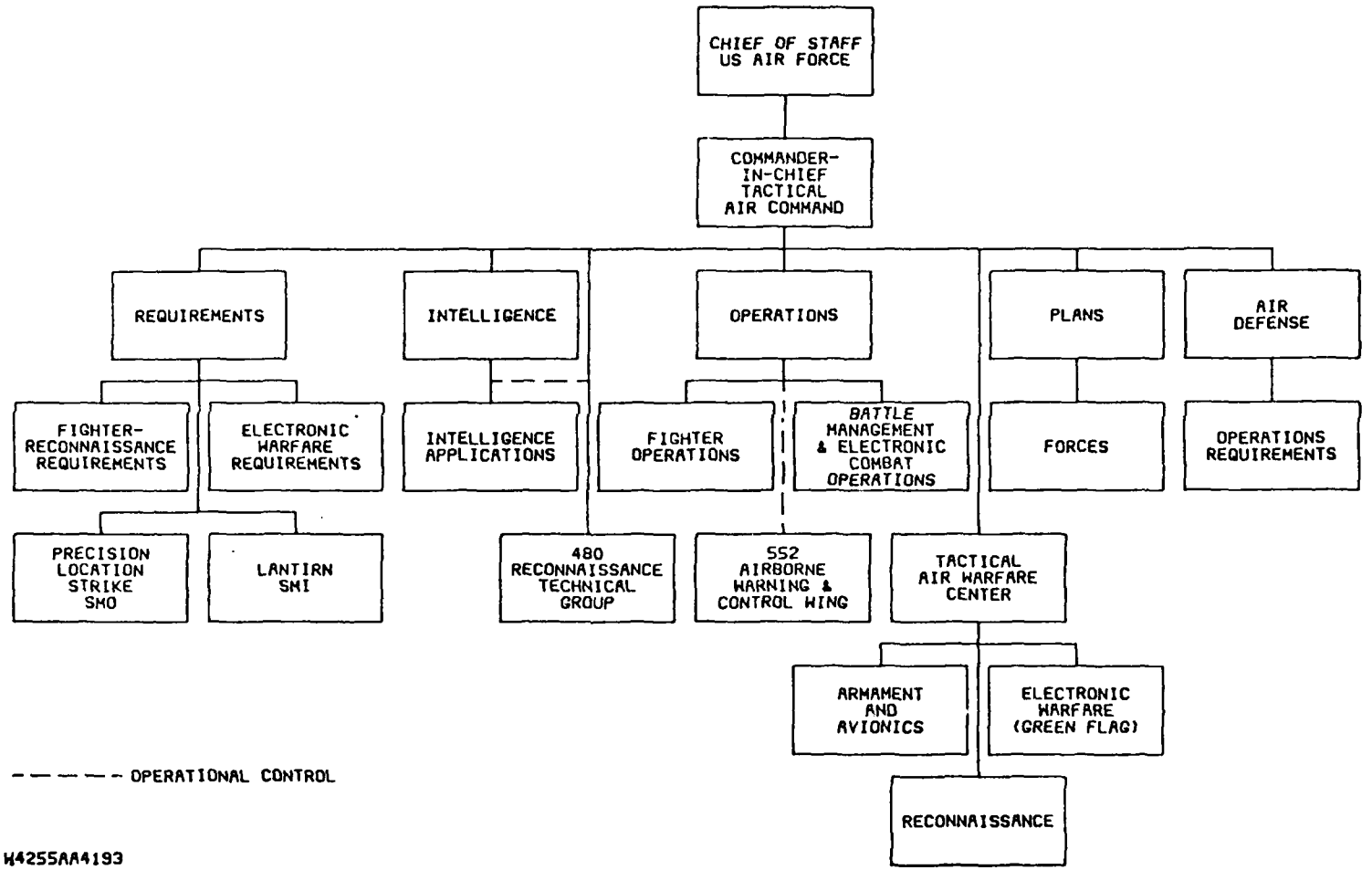

Figure 6 Tactical Air Command

1. DCS/Intelligence (IN)

IN is responsible for the continuing analysis and appraisal of threat capabilities to conduct intelligence and EW operations against U.S. tactical air resources: aircraft, air and ground surveillance and warning systems, reconnaissance systems, and the C^3 resources required to conduct successful tactical air combat. The IN exercises command control of the 480th Reconnaissance Technical Group (RTG) which supports IN appraisals, tactical targeting and threat assessments.

2. DCS/Operations (DO)

The DO organization is responsible for oversight of all TAC operations, including training, equipping, and maintaining combat-ready tactical air forces capable of rapid deployment and employment, and strategic air defense forces capable of maintaining U.S. air sovereignty in peace time and conducting air defense operations in wartime. Intelligence and EW focus in this organization is centered on the Directorate of Fighter Operations (DOO) and the Directorate of Battle Management and Electronic Combat Operations (DOF).

3. DCS/Requirements (DR)

DR is responsible for defining, coordinating, and validating all TAC requirements including intelligence and EW. EW requirements are tasked to the Directorates of Armament and Avionics (DRA), Fighter-Reconnaissance Requirements (DRF), and Electronic Combat (DRW). The Directorate of Command and Control (DRC) also addresses requirements for enhancing EW countermeasure protection or the Tactical Air Control System (TACS).

4. DCS/Plans (XP)

Within XP, the Directorate of Forces (XPF), the Directorate of Joint Matters (XPJ) and the Directorate of Operations Analysis (XPS) are responsible for intelligence and EW matters from a force structure and development standpoint, as well as for planning TAC's interworking with the other services.

5. USAF Tactical Air Warfare Center (TAWC)

The TAWC - like TAC - is EW-intensive and is responsible for all aspects of electronic combat activities. TAWC trains and evaluates TAC C^3 assets through Blue Flag exercises. The TAWC also evaluates aircraft and ground-based systems during Green Flag exercises, conducted in association with Red Flag at the TAWC.

6. Air Defense, TAC (ADTAC)

With the recent reorganization of North American Aerospace Command (NORAD) and Air Defense Command (ADCOM), TAC is now tasked with the strategic warning and air defense of the U.S. To accomplish this mission, TAC established ADTAC. In addition to providing aircraft for this mission, ADTAC also operates the U.S. Distant Early Warning (DEW) Line radar surveillance and warning system, U.S. Air Forces (Air Defense) in Iceland, and the USAF Air Defense Weapons Center. All ADTAC activities are deeply involved in offensive and defensive intelligence and EW operations.

7. 552nd Airborne Warning and Control Wing (552 AWCW)

TAC's 552nd operates E-3A (AWACS), EC-130, and EC-135 aircraft in a variety of roles. The AWACS provides surveillance and warning, fighter force control, and airborne battle management in combat. The two versions of C-130s provide airborne battle management, as well as jamming. The EC-135 is equipped to provide airborne command post control operations of deploying tactical fighter aircraft.

b) Strategic Air Command (SAC)

SAC, an Air Force specified command, reports directly to the Secretary of Defense through the JCS. Like TAC, this strategic combat organization is intelligence and EW-intensive and, in the case of its bomber fleet, is EW-dependent of survival. SAC organization is depicted in Figure 7.

1. Deputy Chief of Staff (DCS/Intelligence (IN)

The SAC IN organization is involved in a variety of intelligence and EW programs. The Directorate of Collection is responsible for managing intelligence collection tasking of FAC's organic reconnaissance platforms. The products of these systems provide inputs to the Directorate of Assessments for analysis, appraisal and reporting. The primary recipient of reports is the Directorate of Targeting which uses the intelligence data in the preparation of targeting information for SAC's bomber and missile resources. The IN also exercises control of SAC's 544th Reconnaisance Technical Wing which processes intelligence data.

2. DCS/Operations (DO)

DO is responsible for the conduct of SAC's day-to-day intelligence collection operations, maintenance of SAC's combat-ready status, and management of the Strategic Reconnaissance Center and the SAC Command Post. The DO also is responsible for ensuring that the SAC's resources are adequately equipped and training for conducting intelligence and EW operations worldwide.

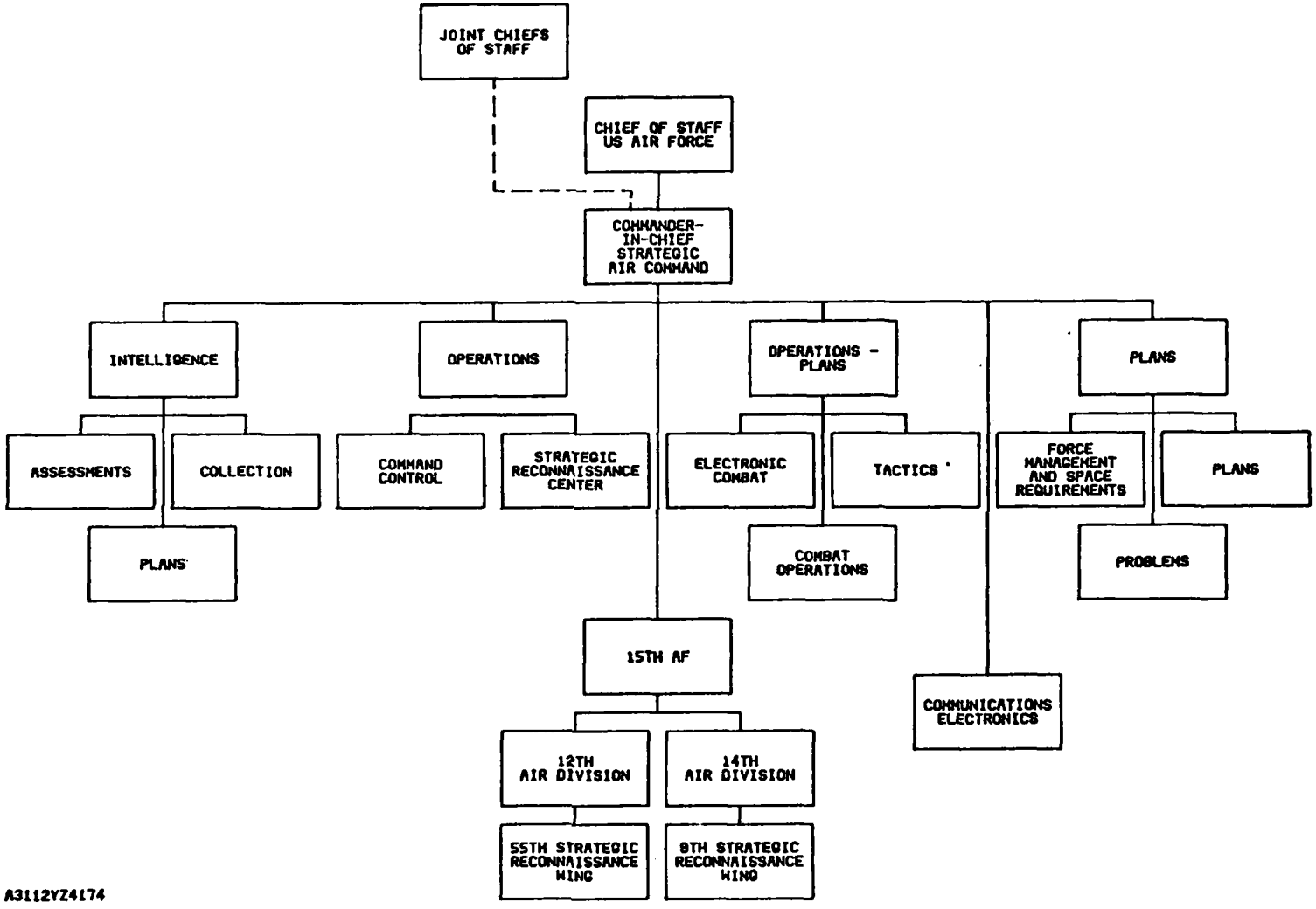

Figure 7 Strategic Air Command

3. DCS/Operations Plans (XO)

XO is responsible for the development and maintenance of plans for employing SAC's current and projected operational forces in combat. These include the bomber and missile forces, and SAC's reconnaissance/EW resources. The Directorate of Electronic Combat is specifically tasked with planning the combat employment of both offensive and defensive EW for all forces.

4. DCS/Communications-Electronics (DC)

DC is responsible for insuring the maintenance of viable and survivable communications for all SAC forces and their required electronic interface with other TRIAD forces. The communications systems employed for this purpose must be as impervious to hostile intrusion and EW as possible.

5. DCS/Plans (XP)

XP is responsible for formulating and defining SAC's operational intelligence and EW requirements for aeronautical, space, and ground processing systems in response to National policies and requirements. XP also has oversight of all SAC programs affecting intelligence and EW operations, and establishes long-range plans for the command.

c) Space Command (SPACECOM)

SPACECOM, the newest Air Force Command, is a product of electronic and astronautic technology. Its organization is depicted in Figure 8. Since its establishment, SPACECOM has been erroneously identified as the "new" North American Aerospace Defense Command (NORAD) and a replacement for the AF Air Defense Command (ADCOM). It is neither, but it is a logical outgrowth of both. NORAD-

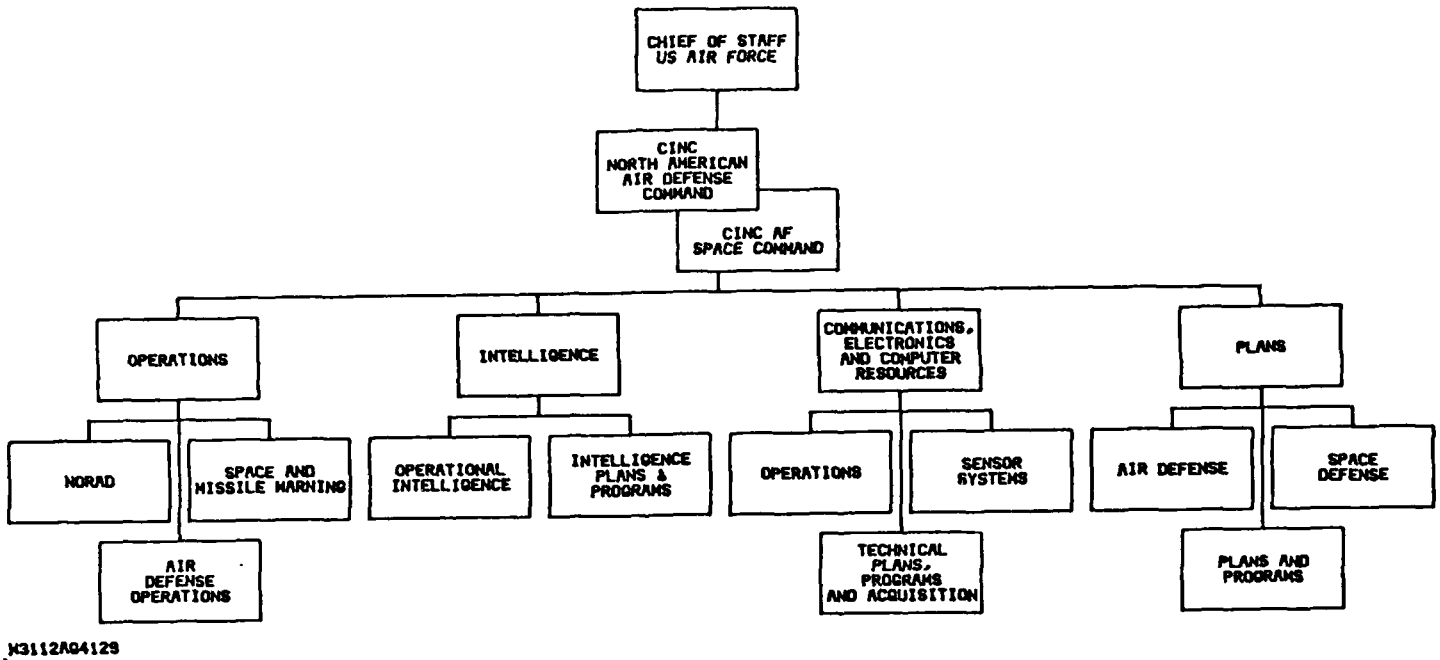

Figure 8 Space Command

a joint U.S./Canadian Forces command - continues to provide fully integrated surveillance and air defense of North American airspace. SPACECOM provides the U.S. space surveillance quotient of that integrated operation. The USAF ADCOM, which provided the U.S. air defense quotient to NORAD, has been disestablished and its functions transferred to the new Air Defense, TAC (ADTAC) which is in the process of replacing ADCOM's aged F-106 interceptor fleet with F-15s, and has assumed operation of NORAD's DEW line radar sites. The commander of SPACECOM continues in his dual role as CinCNORAD, seconded there by a Canadian Air Force Lieutenant General as Vice CinC.

SPACECOM's establishment resulted from the converging of four factors which were increasingly affecting space operations by the late 1970s: U.S. increasing dependence on space-borne reconnaissance, surveillance, and communications systems; the requirement to support fully the Air Force's participation in the Space Transportation System (STS - "Space Shuttle") program; an expanding U.S. space resource commitment; and an expanding Soviet military threat in space.

d) Air Force Systems Command (AFSC)

AFSC is the Air Force's primary agency for research, development, test and evaluation, application and acquisition of operational aerospace systems: aeronautical, astronautical, electronic, missiles and armament. AFSC operates RDT&E divisions, centers and laboratories throughout the CONUS and at numerous overseas locations. As with all AF commands, AFSC is electronics-intensive, and a large percentage of its mission is intelligence and EW-oriented. AFSC's organization is depicted in Figures 9 and 10.

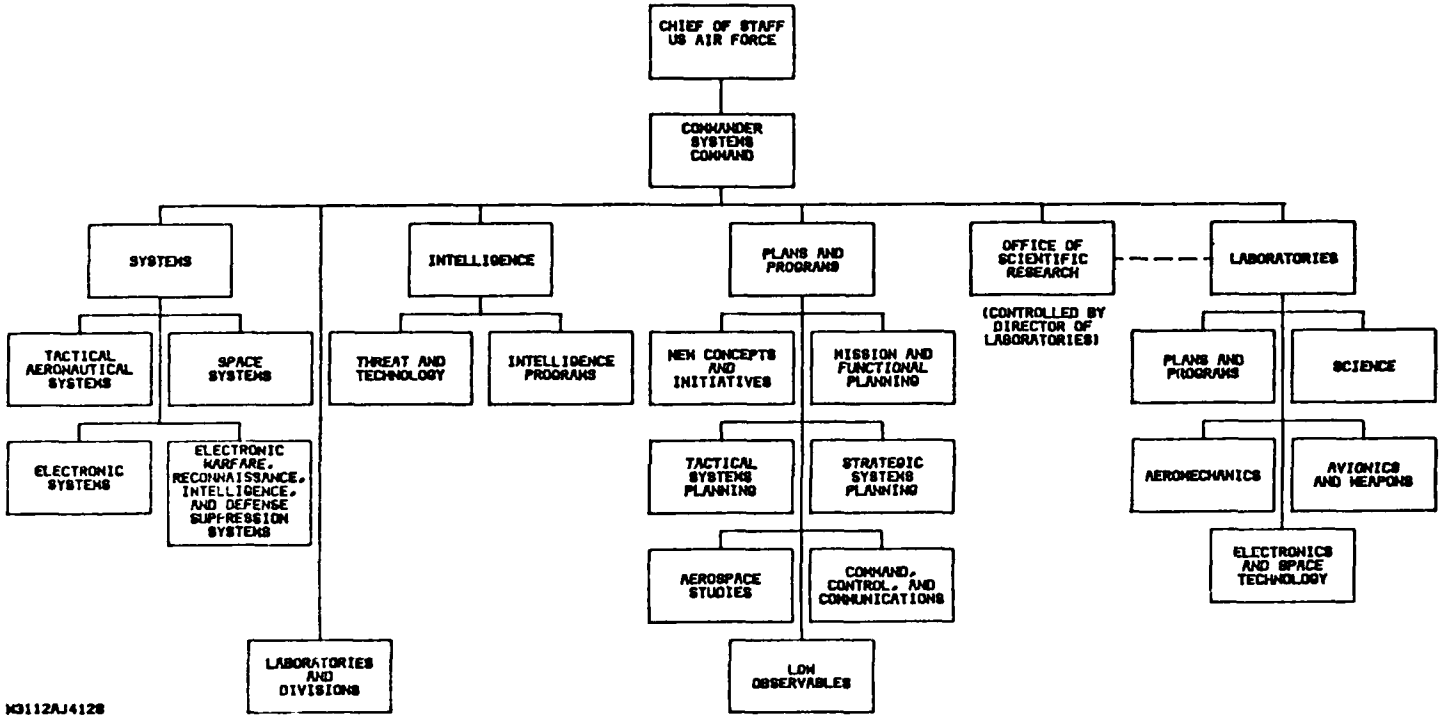

Figure 9 Air Force Systems Command

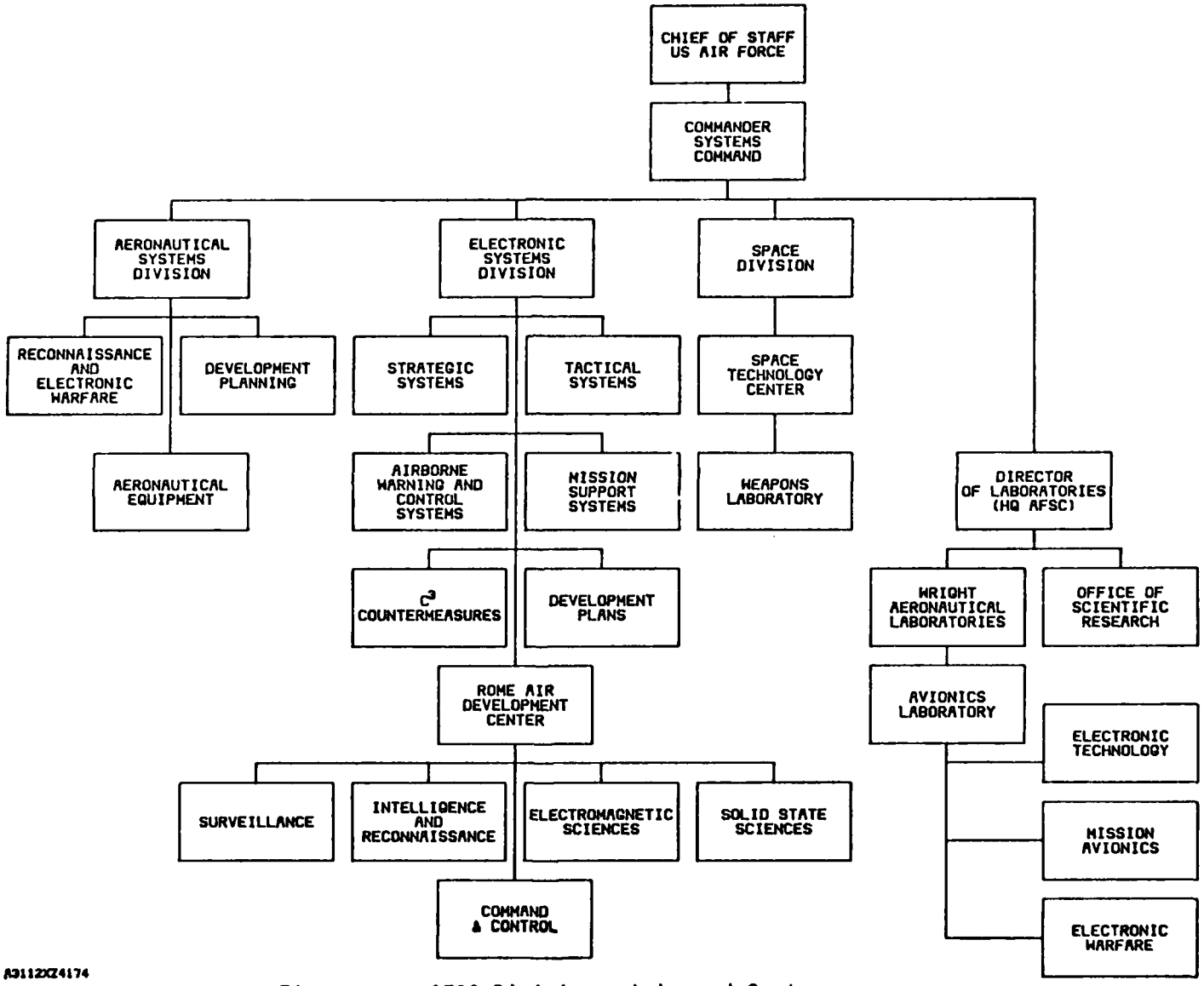

Figure 10 AFSC Divisions, Labs and Centers

1. DCS/Systems (SD)

SD manages oversight of all programs involving tactical aeronautical, space, electronic, EW,reconnaissance, and intelligence and defense suppression systems.

2. DCS/Intelligence (IN)

IN is responsible for maintaining cognizance of threat capabilities and the technologies employed in the development and maintenance of these capabilities. IN also provides direct support in the form of program management to AF intelligence organizations.

3. DCS/Plans and Programs (XR)

XR conducts long-range planning for AFSC's programs, manages the development of new concepts and initiatives, and controls planning and programming of special programs.

4. Director of Laboratories (DL)

DL controls all AFSC laboratory operations. The directorate develops and maintains oversight of all laboratory plans and programs, and sciences employed in such R&D areas as aeromechanics, avionics, weapons, electronics, and space technology. DL controls the operations of the AF Office of Scientific Research which is under the immediate command of the AFSC Commander.

5. Air Force Office of Scientific Research (AFOSR)

The AFOSR is the single Air Force manager for basic research programs. From an EW standpoint, the office award grants and contracts to institutions and industry for advanced research and development programs selected to support the search for new technologies and the expansion of the current state-of-the-art. AFOSR maintains the Frank J. Seller Research Laboratory at the U.S. Air Force Academy at Colorado Springs; the European Office of Aerospace Research and Development (EOARD) in London, which provides liaison with the scientific communities in Europe, the Near East, and Africa; and the AFOSR Liaison Office, Far East (AFOSR/FE), in Tokyo which provides the Air Force's interface with the scientific and engineering communities in the Far East. The London and Tokyo facilities identify and assess foreign technologies, engineering, and advanced manufacturing methodologies that can be applied to USAF requirements.

6. Divisions, Laboratories and Centers

Aeronautical Systems Division (ASD) directs the development and acquisition of all manned aircraft, unmanned missiles, and aeronautical equipments and subsystems destined for integration with AF aircraft. This includes the development and acquisition of EW aircraft and reconnaissance and EW subsystems for aircraft in the AF inventory.

Armament Division (AD) researches, develops, and acquires conventional air armaments, and tests and evaluates EW and related systems and subsystems.

Electronic Systems Division (ESD) is responsible for R&D, acquisition, and delivery of electronic systems for the C³I of all AF combat resources. ESD works directly with the AF major commands to derive requirements and plan for evolutionary improvements to C³I systems. ESD's areas of interest include ground, air, and space-based radars, command and control systems, satellite communications terminals, electro-optical satellite tracking systems, and secure and survivable combat communications systems.

Rome Air Development Center (RADC) is ESD's research development, demonstration and acquisition center for C³I systems. The center's focus is on communications, electromagnetic guidance and control systems, surveillance systems for ground, air, and space operations, intelligence collection, processing, fusion, and data handling systems, information system technologies, wave propagation, microwave physics, and the EW applications of these sciences.

Space Division (SD) is responsible for the development, acquisition, and management of the majority of U.S. military space systems. From an intelligence and EW standpoint, these responsibilities include developing and maintaining space defense and survivability technology to protect U.S. space assets.

Air Force Avionics Laboratory (AFAL) conducts R&D programs for reconnaissance, EW, electronic technology, avionics systems, and weapon delivery and guidance systems.

e) Air Force Logistics Command (AFLC)

AFLC's interest in intelligence and EW is focused in its AF Acquisition Logistics Division, which is responsible for (a) applying "lessons learned" on older intelligence and EW systems to aid in the development of new items, and (b) reducing life-cycle costs of new systems. AFLC organization is depicted in Figure 11.

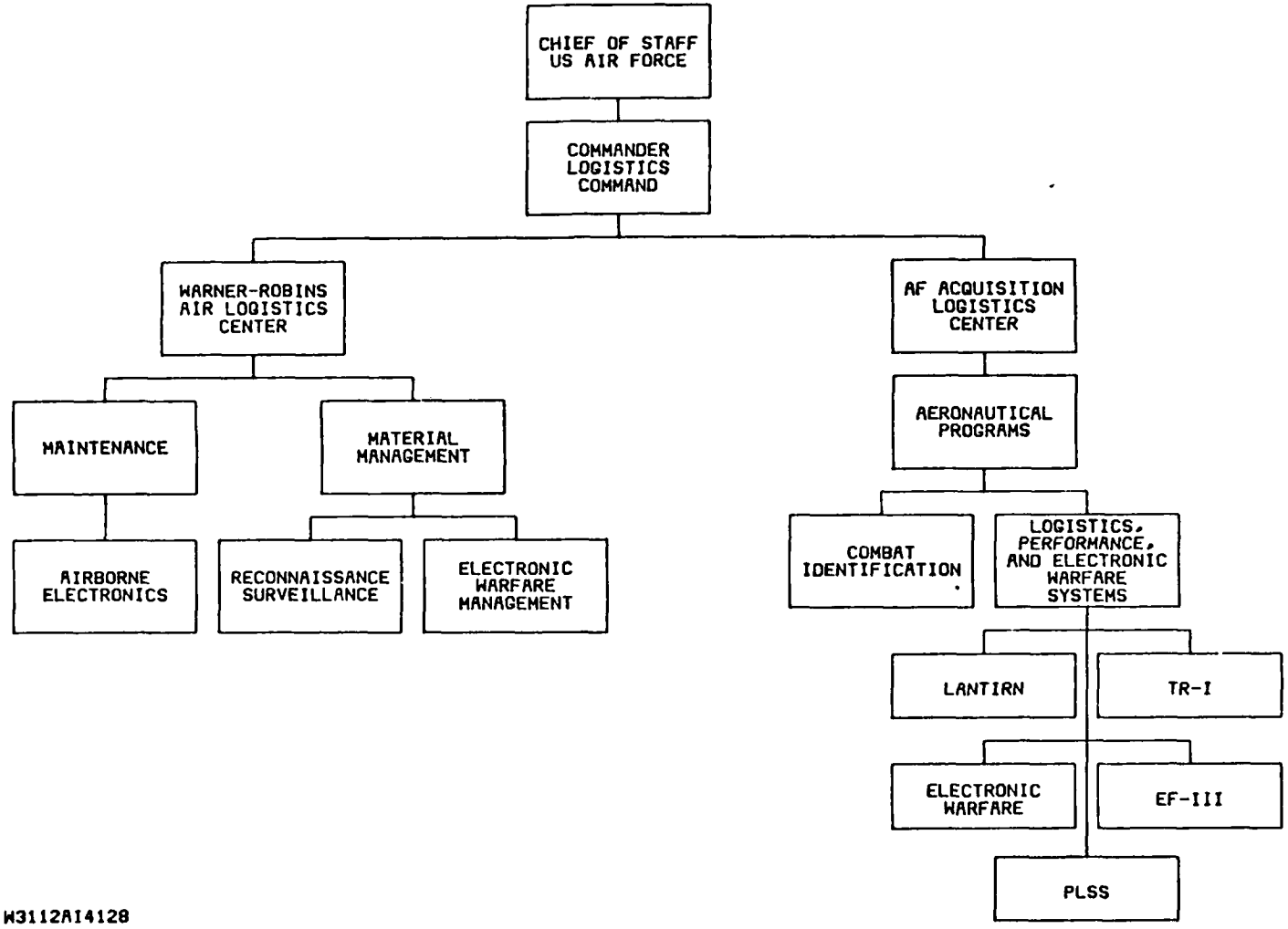

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Figure 11 Logistics Command

f) Air Force Electronic Security Command (ESC)

ESC is responsible for the Air Force's SIGINT programs and the development of C^3 Countermeasures (C^3CM) offensive and defensive combat strategy and operation. The Command provides the combat commanders with options for conducting electronic combat to exploit, deceive or disrupt enemy C^3 capabilities to ensure that an enemy cannot do the same to a USAF commander's C^3. ESC organization is depicted in Figure 12.

g) Joint Electronic Warfare Center (JEWC)

ESC originally established an Air Force Electronic Warfare Center as a source of EW analysis and advice for AF commanders. The intense interest generated in EW/C^3CM in the past few years has led to the conversion of the Center to a Joint Services operation under ESC stewardship. The JEWC staff provides the Services and joint and specified commanders with analyses and appraisals of EW systems world-wide, and the success or failure of these systems in major exercises. ESC and TAC also have established an EW/C^3CM Battle Manager's Course to prepare key senior officers in EW combat operations.

4. Intelligence Community Inputs

Some or all of the intelligence organizations shown in Figure 2 may have inputs that are necessary for the efficient conduct of low intensity conflict operations dependent on the length of the conflict. For instance, the State Department or Department of Treasury may be the only organizations with adequate current intelligence on some third world countries that may be involved in low

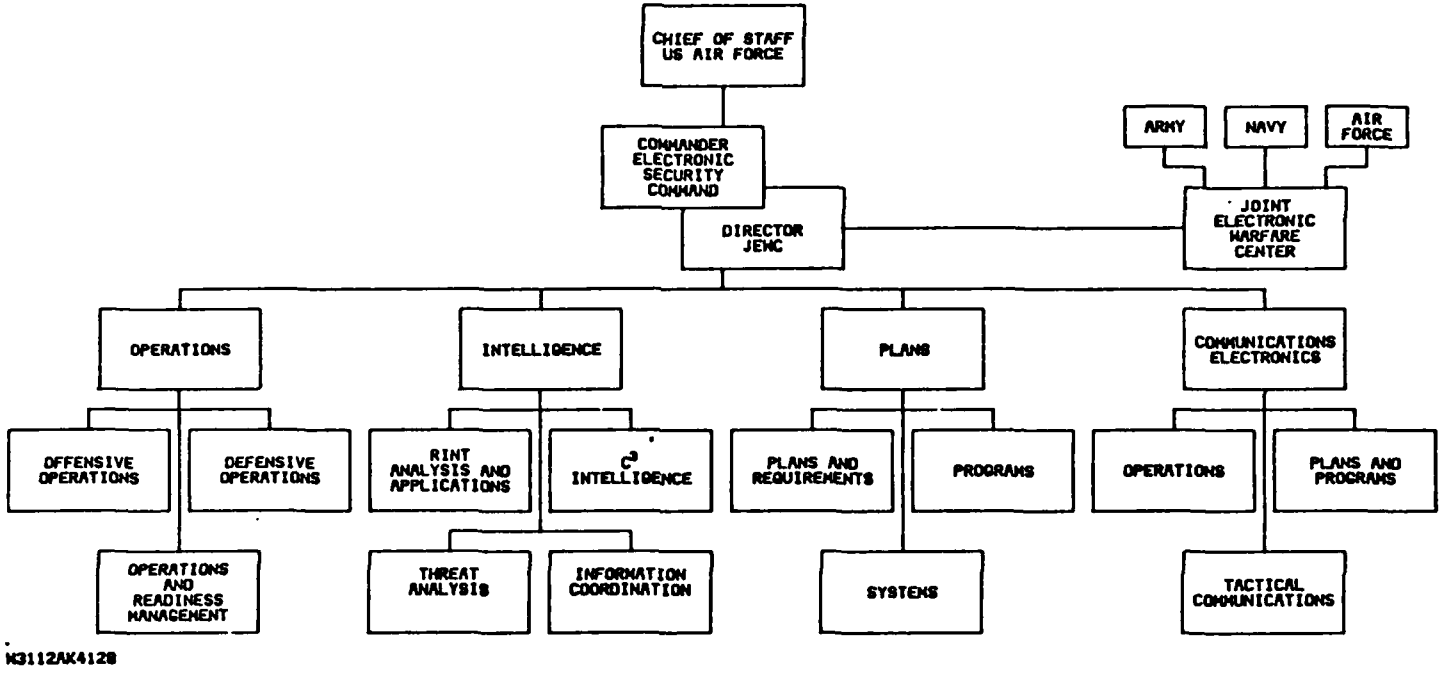

Figure 12 Electronic Security Command

intensity conflicts. On occasion, the Federal Bureau of Investigation may have some meaningful intelligence information that relates to the low intensity conflict. The Central Intelligence Agency (CIA) must also be a major contributor of intelligence information, especially Human Intelligence (HUMINT). Although CIA is involved to an extent in conflicts at all levels of intensity, the interaction between the CIA and the military is less at the higher end of the spectrum. At the low end; however this interaction may reach significant proportions. The CIA will often be involved in the low intensity conflict area even before military forces are considered. Conflicts have occurred in the past between CIA and military organizations and operations. If the United States is to conduct military operations in a low intensity conflict successfully, this situation cannot exist. All organizations involved, especially the CIA and the military, must have the same objectives and have the same intelligence picture of the situation in the conflict area; otherwise the para military and military operations could be at cross-purposes and counter productive. The overriding objective for all of the organizations in the intelligence community should be to provide any intelligence data that may give the USAF and other military or civilian organizations involved in a low intensity conflict the edge in battle.

D. LOW INTENSITY CONFLICT INTELLIGENCE REQUIREMENTS

1. Command Relationships

U.S. Air Force operations are routinely conducted as part of a joint task force or combined force action. There is every reason to believe that USAF involvement in low intensity conflict will follow this pattern. Therefore, the air component commander should exercise central authority over air forces employed to achieve the political and military objective. It should not matter whether the low intensity conflict is of long or short duration. The Commander-in-Chief (CINC) of the appropriate unified command should be the regional

focal point. The CINC's role is crucial, because he has a theater perspective. For this reason, the unified commander is in the best position to ensure operational objectives and strategic goals are successfully achieved. Furthermore, the unified commander exercises operational control over all U.S. military resources employed in his region. He is also the senior U.S. commander dealing with allied or friendly forces in the geographical region involved.

Additionally, the unified commander coordinates with U.S. embassies and their staffs and directs the employment of U.S. and allied military assets. Just as importantly, the unified CINC coordinates with the Joint Chiefs of Staff, and the regional authorities in the Department of State and other U.S. and foreign activities. The intelligence organizations of the nation being supported in the low intensity conflict should likewise be a source of intelligence support to the system. Host nation intelligence information can be provided in the normal fashion to State Department representatives and embassies. The data can be relayed from the unified commander to the Low Intensity Conflict Fusion Exploitation Center (LICFEC) and fused with other intelligence to get a more complete assessment of the overall situation. Bilateral cooperation between the U.S. intelligence community and the host nations intelligence system should be based on the realities involved. For instance, security within the host nation must be considered, as should the reliability of the data provided. Low intensity conflicts are usually characterized by suspicions and questions concerning loyalty. Enemy personnel have often times infiltrated the host nation's chain of command. Although host nation intelligence support and products will be valuable, intelligence exchanges and cooperation must be conducted with a great deal of caution.

All of these facts indicate that the unified commander should be responsible for low intensity conflict military operations in his theater and that the Air Component Commander should be responsible for the air war. Intelligence support for low intensity conflicts should consider the special needs of the Air Component Commander. The intelligence data provided should be a synthesis of the best information the intelligence system has to offer specifically tailored to give the ACC everything needed to make the right operational decisions. These command and intelligence support arrangements will permit the speed, flexibility, versatility, range, and firepower of USAF forces involved in the conflict to be exploited.

2. USAF Operational Concepts for a Low Intensity Conflict

Intelligence support requirements for low intensity conflicts cannot be defined unless operational concepts are considered. The success of the USAF operations in a low intensity conflict will depend upon the on-scene forces ability to deny surprise, blunt any enemy attacks, shape the battle, seize and retain the initiative, and achieve a situation favorable to the United States. The USAF will have to employ its weapon systems in various combat operations to enable the USAF to accomplish the foregoing. These operations may include joint and combined operations as well as unilateral USAF operations.

a. The Air Component Commander (ACC)

The Air Component Commander must be able to optimize the employment of assigned air forces. The ACC must be able to employ the right number of the right aircraft with the right weapons in the

right place at the right time to achieve the desired results. Commanders of the USAF forces involved in low intensity conflicts must have accurate, pertinent and timely intelligence to make correct combat decisions. Battle Staff personnel will also require effective intelligence to plan, direct, and control the combat forces and operations. USAF pilots need intelligence products to execute their assigned combat mission effectively.

There are two distinct facets to the USAF Intelligence Requirement in a low intensity conflict:

- o The USAF forces involved urgently require instantaneous near real-time sensitive products to support on-going combat operations.

- o The USAF forces require an intelligence system that provides for the continuous flow of all source, correlated, and analyzed intelligence to support sustained combat operations.

b. Air Combat Operations

In a low intensity conflict, the USAF must be able to conduct various combat air missions and related support missions. The concepts for employment presented are based on the significant combat power that the USAF possesses, the structure of the USAF forces, geo-environmental factors, the nature of potential threats, and various war fighting concept including those which deal with the electronic dimension of modern combat operations. The USAF may be called on to conduct any or all of the missions which will be described next. These operational missions will be discussed in generic rather than traditional terms.

1) Counter-Air (CA)

The Counter-Air mission may include defensive counter-air and offensive counter-air.

a) Defensive Counter-Air (DCA)

Defensive counter-air operations may be conducted for two primary reasons:

- o Protect friendly targets from attack by hostile aircraft.
- o Inflict losses upon the attacking force.

Friendly targets are protected by denying ingress to the attacking force and precluding accurate weapons delivery should elements of the attacking force reach their target area.

Losses are inflicted by engaging the attacking force continuously during ingress, in the target area, and during egress.

Defensive counter-air includes active, passive and self-defense.

The apportionment process will be used to establish the weight of effort to be devoted to each Air Combat Mission. The Air Component Commander will ALLOCATE the resources between the tasks within each mission area (e.g., Defensive Counter-Air and Offensive Counter-Air) based on the situation and CINC's guidance.

1. Active Defensive Counter-Air

Active defensive counter-air operations involve:

- o Detecting,
- o Identifying,
- o Intercepting, and
- o Destroying or Neutralizing

enemy aircraft involved in air attack against USAF and friendly targets.

Active DCA may involve the use of radars, interceptors, AAA, and surface-to-air missiles (SAM). Active DCA operations are characterized by three dimensional depth and include area, point, and self-defenses. Active DCA is used to protect both surface and airborne targets of interest to the USAF. These targets could include:

- o *Cultural and Religious Centers*
- o Seats of Governmentals Activity
- o Friendly Lines of Communication
- o Friendly Troop Concentrations
- o Supply Depots and Logistics Support Systems
- o Centers of Population
- o Oil Fields, Refineries, and Pipelines
- o Industrial Complexes
- o Command, Control, Communications and Intelligence (C^3I) nodes and links, including fixed and mobile surface based (Land and Sea) and airborne elements such as Airborne Warning and Control Systems (AWACS)

- o Air Bases (MOBs, FOBs, and Commercial Operating Bases)
- o Friendly naval vessels operating in or adjacent to territorial waters
- o Friendly maritime vessels operating in territorial waters or adjacent sea lanes
- o Friendly commercial aircraft operating in or adjacent to air space

Active DCA may incorporate Electronic Combat (EC) and C^3CM war fighting techniques such as jamming, deception, and disruption.

Active DCA may involve engaging enemy airborne elements involved in the air attack including attack aircraft, escort fighters, aerial refuelers, jamming aircraft, intelligence collectors, and airborne control elements. Airlift aircraft involved in airborne operations may also be a target.

2. Passive Defensive Counter-Air

Passive Defensive Counter-Air includes measures intended to preclude accurate weapons delivery and minimize munitions effects. In other words passive defenses are to lessen the effectiveness of enemy air attacks.

Passive DCA involves:

- o Alert and air attack warning systems
- o Dispersal (geographic and vertical)
- o Hardening (shelters, revestments, underground facilities, etc.)

- o Tone down and camouflage
- o Decoys
- o Emission control
- o Electronic deception

Passive DCA incorporates totally war fighting techniques of EC and C^3CM. Additionally, passive DCA also involves certain provisions and capabilities to assure post-strike continuity of operations. Some of those are:

- o Rapid Runway Repair
- o Redundant Communications
- o Alternate Command Centers
- o Sector Back-up Plans
- o Succession of Command Authority

3. Self-Defense

Self-defense involves using any organic weapon, or any weapon at hand, to engage enemy air if it is in the process of attacking. This includes automatic weapons, hand-held SAMs, SAMs, etc. If a unit comes under attack, it can engage the attacking aircraft independently and not necessarily as a part of the integrated defensive counter-air battle, and depending upon the existing Rules of Engagement (ROE) without approval by, or consulation with, higher authority.

The success of DCA operations may require that the air battle be conducted in an integrated fashion. In other words, conducted throughout the air space, horizonally and vertically, employing both interceptor and surface based weapons in a complementary and orchestrated manner to achieve the necessary unity of effort.

b) Offensive Counter-Air (OCA)

The purpose of OCA is to gain and maintain Air Superiority to provide the air component commander the freedom of action necessary to conduct other air operations. OCA includes operations to achieve control of the air by destroying or neutralizing the enemy's ability to wage effective air warfare, and the suppression of the enemy surface based air defenses.

- o Fighter sweeps
- o Air-to-surface attacks
  - oo Enemy airfields
  - oo Enemy surface based Air Defenses
  - oo Enemy C^3I Systems
- o Combat Air Patrol (CAP)
- o Air Escort

The objective of fighter sweeps is to seek out and destroy enemy aircraft in the air thereby reducing his air combat power.

The objectives of air-to-surface attacks are to hamper the enemy's ability to generate and launch sorties to prevent him from sustaining air combat operations. In addition air-to-surface attacks can degrade the enemy's ability to command and control air operations. Air-to-surface attacks engage various target systems including air bases, surface air defense systems, and GCI control systems, acquisition radars, etc.

Combat Air Patrol (CAP) missions are to protect air, ground, and naval forces during the conduct of specific operations. Although these operations are similar to DCA in their purpose, they differ in that the CAP force is preplanned and stationed

in the immediate area of the operations which they are intended to support, and as such are an essential part of the overall operational plan. Their objective is to deny the enemy from employing his air power to defeat the ongoing operation.

Air Escort missions are conducted to protect friendly forces enroute to a target area and assist them to ingress and egress enemy territory. In addition air escort can be used to provide air cover for air support missions (air lift, aerial refueling, etc.) and the movement of friendly land and naval forces into attack positions and during attack operations.

OCA operations integrate EC and C^3CM war fighting techniques to achieve their overall objectives. For example, jamming can be used against enemy acquisition and fire control radars and C^3I communications links. The engagement of control towers, command centers using destructive and disruptive weapons systems can be particularly effective in achieving OCA objectives.

OCA missions may be conducted independently with the objective of obtaining air superiority over a broad area, or conducted in concert with other operations to achieve air superiority in a limited area for a limited time to enhance the effectiveness of other operations by keeping enemy air power out of the battle.

2) Air Interdiction (AI)

Air interdiction may involve air operations to delay, disrupt, divert, or destroy enemy military potential before it can be effectively employed in battle. Target systems for Air Interdiction may include:

- o Enemy lines of communication (land, sea and air)
- o Marshalling areas, supply points, fuel dumps, munitions storage areas, etc.
- o Rail lines, road ways, bridges, tunnels and natural choke points
- o Trains, trucks, ships, and cargo aircraft moving to or within the battle area loaded with troops and supplies
- o Enemy formations (troops and tanks for example) moving to forward operating areas.

Successful interdiction operations require that Air Superiority be established for ingress, target area and egress. Further, to succeed, Air Interdiction should be accompanied by surface force activity to increase enemy consumption of war fighting supplies and to force the enemy to expose unengaged forces. Effective Air Interdiction further requires the identification of critical nodes within various target systems for engagement and the use of sufficient force to achieve the desired result.

EC and C^3CM war fighting techniques are important factors during the conduct of Air Interdiction and should be fully integrated into Air Interdiction plans and operations.

3) Close Air Support (CAS)

Close Air Support includes operations in direct support of ground and naval forces during combat. CAS is normally conducted near friendly forces and these missions must normally be integrated with the fire and maneuver of the supported elements.

Close Air Support is usually requested by the ground or naval force to be supported. Targets are selected by the surface commander and the request for CAS should include the following information as a minimum:

- o Target description
- o Target location
- o Desired Time on Target (TOT)
- o Degree of destruction required.

Amplifying information pertaining to enemy defenses and friendly force disposition should be included if they significantly affect the accomplishment of the mission.

The objective of CAS is to provide responsive air firepower in support of friendly surface forces to help them blount an enemy surface attack, attain and maintain the initiative in the surface battle.

Close Air Support includes both preplanned and immediate missions. Preplanned missions will normally be tasked through the Air Tasking Order (ATO). Immediate missions will be performed through the launch of CAS alert aircraft or by the diversion of airborne aircraft.

Requests of Close Air Support are initiated by the surface element to be supported. Preplanned requests are normally processed (and approved) through surface force channels. A prioritized list of requests are then provided for the USAF to service within the capabilities of the air allocated for CAS. Immediate requests normally utilize an Air Request net. The Air Request Net normally connects requesting units directly with the USAF C^3I element which has scramble/diversion authority. The Net is monitored at various surface force levels of command and the request can be disapproved by any given level above the requester.

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Detailed execution planning for CAS is conducted by the supported surface element and by the executing unit. CAS missions are usually under some control in the target area. This control may be indirect (procedural) or direct through a surface or airborne Forward Air Controller. In any case final clearance authority for the delivery of munitions is the commander of the surface unit being supported. CAS targeting and planning considerations include:

- o Proximity of friendly forces
- o Friendly force safety
- o Weapons effects
- o Fire and maneuver of friendly forces
- o Enemy air defenses.

Effective CAS operations require air superiority. Specific CAS missions may require protection from enemy air forces and the suppression of enemy surface based air defenses. In some cases the friendly surface units may be able to assist in the suppression effort.

Electronic Combat and C^3CM war fighting techniques can be important considerations during CAS mission accomplishment, particularly in the suppression of enemy air defenses. Therefore, it is important that EC and C^3CM are integrated into the planning and conduct of CAS operations.

4) Special Operations (SO)

Special Operations normally involve operations against high interest targets which require a higher level of planning and control than the aforementioned missions. In many cases, these missions are conducted by a composite force specifically organized to

perform the mission. This composite force could include elements from other military forces, air lift elements, etc., in addition to normal attack forces. These operations could include:

- o Attack against strategic level targets such as industrial complexes, power generation facilities, oil fields, refineries, National Command Centers, etc.
- o Commando type operations against critical enemy targets the destruction of which would significantly aid friendly military operations.
- o The conduct of punitive or retaliatory operations necessitated by enemy action against friendly forces.

c. Air Support Operations

1) Airlift (AL)

The USAF Airlift Forces:

- o Deploy combat forces.
- o Employ combat forces.
- o Redeploy combat forces.
- o Sustain combat forces.
- o Conduct medical evacuation.
- o Support/conduct special operations.

The USAF may conduct airlift operations to deploy USAF or other combat and support elements to Forward Operating Bases (FOB) in the low intensity conflict arena. In addition they will conduct resupply missions necessary for the deployed forces to sustain combat operations. Airlift may also be used to relocate USAF or other units from Main Operating Bases (MOBs) not directly involved in combat operations to other MOBs from which they can be employed effectively.

The USAF may conduct airlift operations to move land force personnel and equipment into and within the low intensity conflict area. Airlift missions to provide resupply of ground forces may be conducted utilizing a variety of delivery methods including air drop and container delivery systems. Further Airlift may be tasked to air drop combat personnel in support of airborne/air assault operations.

USAF airlift aircraft could be utilized to evacuate wounded personnel from the low intensity conflict area for treatment.

2) Aerial Refueling (AR)

The USAF may employ its tanker assets to provide Aerial Refueling support during low intensity conflicts. Aerial refueling can enhance the inherent mobility and flexibility of air power. Refueling enables extended range, and greater payload capability. Refueling operations can also provide responsiveness during deployments and certain combat operations. Aerial Refueling can also be used to extend the time on station of Airborne Warning and Control System (AWACS) and Combat Air Patrol (CAP) forces.

3) Surveillance and Reconnaissance (RECCE)

The USAF may conduct surveillance and reconnaissance using satellite surface based, and/or airborne equipment. The USAF may be responsible for conducting airborne reconnaissance/ surveillance/ collection in support of National, Army, Navy and Air Force intelligence programs. Although the USAF may conduct airborne collection missions in the region, expanded collection activities may be generated to support near term needs for intelligence products and support USAF operations.

The E-3A Airborne Warning and Control System (AWACS) may provide both air and maritime surveillance within its capabilities and as the battle situation dictates.

4) Search and Rescue (SAR)

The objectives of SAR operations are:

- o Locate aircrew and passengers of downed aircraft.
- o Recover aircrew and passengers.

SAR operations may be conducted in friendly or enemy territory.

SAR operations are more complicated during periods of low intensity hostilities because the downed personnel may be behind politically sensitive enemy lines. SAR operations are important not only because they recover valuable combatants for the USAF but also because they deny the enemy a potential source of intelligence and the opportunity to exploit the downed aircrew for propaganda and other political purposes.

SAR operations in enemy territory or within the immediate battle area may require combat air support to assure success. SAR operations may require specialized recovery teams and systems necessary to located downed personnel in various terrain and climatic conditions including mountainous, desert, and maritime. Although the overall responsibility for SAR operations are normally delegated to the Air Force Commander, elements of other friendly military forces may be involved in the search and recovery effort.

SAR efforts may not be limited to downed military aircraft, but may also include efforts to locate and recover personnel aboard civilian and commercial aircraft down as a result of hostile action or other causes.

Upon occasion, SAR efforts may take precedence over other combat activity ongoing in the recovery area, because of the need to provide combat air support to the rescue team. In many instances, control of the overall rescue effort, including the air combat and air support missions, will be transferred to an on-scene commander whose command center may be airborne or surface (land or sea) based.

d. Command, Control, Communications and Intelligence (C^3I)

It is assumed that the USAF Commanders will utilize an integrated Command, Control, Communications and Intelligence (C^3I) System to employ their assigned forces. This C^3I system must be interoperable with other military C^3I Systems and those of other regional states. The USAF C^3I System may include airborne and surface elements and should incorporate the intelligence system outlined in this paper. The C^3I System will be an arrangement (structure) of facilities, equipment, communications, personnel and procedures. C^3I functions will include:

- o Planning
- o Coordinating
- o Directing
- o Controlling
- o Executing

USAF C^3I capabilities must include resources to:

- o Obtain, report, communicate, process, analyze, synthesize, display, and disseminate information to support command planning and decision making,
- o Formulate alternative courses of action for the Commanders decision,
- o Communicate orders to subordinates, control execution, and receive the results of actions and the status of forces.

e. Operational Control of Non-USAF Forces

It is possible that certain special operations (SO) may involve the assignment of non-USAF elements which will be under the operational control of the USAF Commander for the duration of the operation.

f. War Fighting Concepts

USAF concepts of employment for low intensity conflicts may include the total integration of Electronic Combat (EC) and Command, Control and Communications Countermeasures (C^3CM). USAF operations may be characterized by the orchestrated application of all of its war fighting capabilities. Because EC and C^3CM are applicable across the entire spectrum of warfare, they must be integrated at all functional levels from the policy and planning through the execution level.

(1) Background

The electronic dimension of modern warfare has reached significant proportions. The applications of electronic capabilities are particularly dramatic in modern C^3I systems. The ever increasing use of electronics for detecting, acquiring, sensing,

guiding, controlling, communicating, storing, planning, and decision making have provided commanders with immense capabilities for command and control of forces and operations which include the delivery of weapons with near pinpoint accuracies from significant standoff ranges. At the same time there has been an increasing dependence upon these electronic capabilities which require greater intelligence support. This dependence also compounds the inherent vulnerabilities of electronic systems to both the traditional destructive weapons of war and systems which employ electronics to disrupt, degrade, deceive or deny the use of electronic capabilities.

These developments have also emphasized the fundamental importance of C^3I as an effectiveness multiplier during combat operations. Good C^3I is essential to realizing the inherent combat power of weapons systems. Nowhere is this more pronounced than in the flexible employment of air power which relies upon employing the right number of the right aircraft with the right weapons in the right place at the right time to achieve decisive results.

These foregoing factors have given use to the formulation of two important war fighting concepts:

- o Electronic Combat (EC)
- o Command, Control and Communications Countermeasures (C^3CM)

These concepts incorporate three important facts:

- o Electronic and C^3I capabilities represent important target systems.
- o These target systems can be engaged using a variety of weapons, including electronic devices, to degrade, disrupt or destroy critical nodes.

- o Combat success will, in part, depend upon denying the enemy the use of his electronic capabilities and C^3I while preserving the USAF's ability to employ theirs.

EC and C^3CM are not missions in the ordinary sense. EC and C^3CM involve the entire spectrum of warfare. EC and C^3CM must be considered in the development of low intensity conflict intelligence support.

EC and C^3CM are extremely dependent upon intelligence support, often requiring a greater depth of intelligence than the actual employment of other weapons systems per se. For this reason, EC and C^3CM concepts must be thoroughly integrated into the design of a low intensity conflict intelligence system if EC is to be effectively utilized.

(2) Command, Control, Communications Countermeasures (C^3CM)

(a) Applications

Often C^3CM involves the use of similar assets in both Counter C^3 and C^3 Protection application. Because the real dividends to be gained depend on the increase of the relative effectiveness of one's own C^3I with respect to the enemy's C^3I, one should not emphasize Counter C^3 over C^3 Protection when considering intelligence support architecture. If one does, one's own C^3I will most likely be degraded to the same extent as the enemy's C^3I with no gai in relative capability.

In low intensity conflicts, a given enemy C^3I node may have competing value as a target for engagement or a source for exploitation. The operations-intelligence collaboration within a C^2I system must be able to consciously resolve any dichotomy on a case by case basis.

(b) Electronic Countermeasures (ECM)

The most obvious use of ECM in the C^3CM context is jamming, which can be used in a variety of ways in a low intensity conflict to achieve the Commanders objectives. Jamming has traditionally been used to assist penetration of enemy defense systems. Jamming has also been used as a survival tool, allowing an attacker to negate a particular SAM or AAA control system which is attempting to destroy him. Both Stand-Off Jammers (SOJ) and aircraft pods have been used for these purposes. Chaff has also been used effectively. Jamming takes on broader application when a C^3CM mind set for low intensity conflict is used. For example, jamming could be used against a key node during a situationally critical time to deny an enemy Commander the control of his forces. Jamming Ground Control Intercept (GCI) or Forward Air Control (FAC) communications are other examples of how it can be used. Jamming can also be used in some cases to protect friendly communications. By setting up a "jamming screen", friendly forces can deny the enemy knowledge of the traffic being conducted by friendly forces.

Other potential applications of ECM include Electronic Deceptions. Both manipulative and imitative deception can be used effectively against an enemy who is dependent on C^3I for the direction of his forces. This is usually the case even in third world countries. Attacking aircraft, for example can be drawn away from their intended target through deception, thereby negating their effectiveness.

ECM may have operational costs. It must be applied thoughtfully. A jammer can disrupt friendly as well as enemy communications and sensors. Furthermore a jammer tends to highlight himself and thereby becomes a high value target for enemy action. The use of ECM must be totally integrated into the overall low intensity conflict operational plan to be most effective, and adequate intelligence support must be available to support ECM operations.

(c) Electronic Counter Countermeasures (ECCM)

ECCM suffers from some traditional perspectives on its nature and uses. Often ECCM is viewed only as a piece of electronic equipment incorporated into a radio or a radar which will tend to make it immune to a specific, known enemy ECM capability. For example, frequency hopping/frequency agility is normally considered as ECCM against enemy jammers. The tendency to consider such "designed-in" features as the total spectrum of ECCM obscures many other applications. ECCM can also be considered as maneuvers, tactics, procedures, etc., as well. Netted systems, and alternate paths of communications can also be effective counter-countermeasures in a low intersity conflict.

(d) Electronic Support Measures (ESM)

The rapid advance in the technology applied to Radar Warning Receivers (RWR) has also aided ECM. A RWR can provide warning to a pilot of the presence and the state of readiness of programmed surface-to-air or other threats. To differentiate between the various threats, certain operational characteristics of the system must be collected for programming the RWR. (It is really not relevant whether such collection is called ESM or ELINT for the purpose the collected data is used.) As a result ESM is not only equipments like the RWR which provides immediate warning to a pilot, but also includes the intelligence support required to program the RWR.

ESM can also contribute to C³CM in a low intensity conflict. It can contribute to the development of an Electronic Order of Battle for planning and targeting purposes. Further, such efforts are useful in templating the arrays of electronic emitters which characteristically identify a critical node in the enemy's C³I system.

(e) Overlap

The overlap between C³CM and EC is apparent. It is not important to isolate the two concepts surgically; in fact to do so could be counter productive. Trying to determine whether a given action is C³CM or EC does not significantly increase the effectiveness of the action. The important thing is that the combined intent of EC and C³CM are totally integrated into USAF plans and operations in any low intensity conflict, and to design-in adequate intelligence support to make the overall operations-intelligence system effective.

(f) Suppression of Enemy Air Defenses (SEAD)

SEAD is action which neutralizes, destroys, or degrades temporarily an enemy's air defenses. SEAD is often conducted in conjunction with various air combat missions to enable attack aircraft to reach the target area, deliver their ordnance, and exit enemy territory. SEAD involves attacking all aspects of an enemy's air defense system including the weapons, control systems, acquisition and tracking systems and fire control systems. Often, military forces from other services contribute to SEAD, for example, friendly artillery can assist to suppress air defenses in and around the forward edge of the battle area. Intelligence support is critical in SEAD operations. Enemy air defenses must be identified and located if SEAD operations are to be successful. In a low intensity conflict, any aircraft destroyed or pilots captured can be big political weapons. Therefore, it is important of SEAD to be successful to the maximum extent possible.

(g) Target Systems for EC

EC is employed against enemy systems that use the Electromagnetic Spectrum:

- o Radars
- o Radios
- o Navigation Aids
- o Command and Control Centers
- o Guidance Systems
  - -- Laser
  - -- Infrared
  - -- Optical
- o Acquisition and Tracking Systems
- o Jamming Systems
- o Intelligence Sensors
- o Etc.

(h) Potential of EC

EC is frequently viewed in the narrow context as activity which simply enables the accomplishment of specific Air Combat Missions or as an aid to penetration. Such a limited view obscures the full potential of EC in a low intensity conflict. EC, like C^3CM, has applications across the entire spectrum of warfare and can often help achieve command objectives. For this reason EC and C^3CM must be an integral part of the Commanders arsenal and decision process during a low intensity conflict.

3. Designing Intelligence Support for Low Intensity Conflict

a. Internal and External Interface Requirements

The C^3I Systems in a low intensity conflict will not exist nor function in isolation, nor will its integral intelligence capability. C^3I systems are "systems of systems" and are usually a

subsystem of a larger "supra-system" and shares a common environment with other subsystems of that larger system. Because each of these various systems affect, directly or indirectly, all of the other systems there is a need for a means for effective interaction among the systems to establish a dynamic equilibrium. In this regard no system is complete unto itself.

Intelligence support for low intensity conflict will not be an exception to the foregoing rules. The intelligence support systems will be composed of various subsystems and the effectiveness of the Internal Interfaces/Interactions will determine overall effectiveness. In a similar manner, the effectiveness of the External Interfaces/Interactions with counterpart systems will determine the effectiveness of the intelligence support available to USAF Commanders during combat operations in low intensity conflicts. The overall system must feature both a division of effort and a specialization which reflects the unique capabilities and special needs of each subsystem.

The foregoing assumptions are even more applicable in the context of joint military operations and combined operations in collaboration with other regional military forces. The current initiative toward greater military cooperation among friendly forces in low intensity conflicts adds greater importance to effective interfaces/interactions among intelligence systems to assure a high degree of interoperability.

The design of the intelligence support system must consider these requirements and establish the necessary lateral and vertical provisions required to optimize what is essentially a distributed system.

b. Operations - Intelligence

The Operations/Intelligence Interface is one of the most critical one's to be considered in the design of the Intelligence system to support low intensity conflicts. This interface should establish such a high degree of collaboration that the interface is virtually invisible at the working level, where it should be impossible to discern between the operator and the intelligence officer. The design emphasis should be to eliminate the requirement for numbers of specialized intelligence personnel collocated at the various working levels of the USAF C³I System to interpret the intelligence products received at that level. The system should ensure that all of the information that is required, and nothing more, reaches the operator in a form which he can use directly. The Operations/Intelligence Interface must be addressed throughout the design process, from determining EEIs, product formatting, analysis, processing, collecting and especially distribution. The ultimate goal is to create an intelligence system which becomes integrated fully into the USAF C³I System, not create an independent system, complete with special communications and a myriad of specialized personnel, which simply "coordinates" with or responds to operational and command personnel.

c. Interfaces/Interactions Between Elements

The intelligence system should incorporate a high degree of lateral exchange of intelligence. This lateral exchange must be the highest possible consistent with the need for security of the intelligence and the protection of the sources of information. This lateral interaction could include the direct access to various distributed data bases to retrieve intelligence required for decision

making. The netting of the various data bases could reduce the requirement for processing requests and providing responses up-and-down the chain of command. It should not be a requirement that the distribution of an intelligence product occur after the completion of fusion analysis with all other intelligence. The system should include provisions for the products to be provided at various degrees of refinement to meet the needs of the operator. This is particularly true when providing intelligence in near-real-time characterized by an extremely short useful life span. This does not preclude a central fusion center which will have to be incorporated, particularly for those applications which require higher degrees of fusion analysis and whose products have a greater useful life. For example, it may be important for a senior commander to have the fused results which reveal the intentions/capabilities of the enemy while the attack pilot may only require the knowledge of the presence of a specific enemy AAA or SAM site.

The design should emphasize providing operational intelligence to commanders and combatants as a principal function of the intelligence support system. It is therefore important that intelligence available at one node in the C^3I system is functionally available to all other nodes at the same level as well as higher and lower level nodes, if that intelligence is necessary for the conduct of operations at the respective nodes. Such functional availability may require direct lateral, direct to higher/lower nodes in adjacent systems, as well as strictly vertical interfaces/interactions characteristic of information flow via the "chains of command".

d. External Interfaces/Interactions

The External Interfaces/Interactions of the intelligence support system are extremely important not only to facilitate the conduct of joint and combined operations, but also to ensure that USAF Commanders receive intelligence developed within other Service

and National Organizations Systems. The USAF intelligence system will not be responsible for meeting all of the intelligence needs in the low intensity conflict, nor will it be responsible for developing all of the intelligence which will be needed by USAF Commanders. It may be responsible, however, for processing, and analyzing if necessary, intelligence products and raw data produced or collected by other intelligence systems, for the USAF Commanders use.

For example, it is not anticipated that the USAF intelligence system will include a vast organization to collect and analyze HUMINT data. At the same time the results of HUMINT efforts may be important to the Commander in determing how to employ his forces in a low intensity conflict. It is likely that the vast majority of HUMINT collection and analysis for the military services will be accomplished by DIA and National Level agencies and distributed to the various services to meet their specific requirements. Another example includes the Land and Naval Orders of Battle and Situational Data. The USAF may provide a great deal of the raw data necessary to establish the foregoing, but the Land and Naval forces will be responsible for developing and maintaining the products. The USAF Commanders will require these orders of battle and situation data, however, to assist them to develop plans and make decisions relating to combat operations.

The interaction between the USAF and air defense forces may be particularly important in order to execute operational control over the integrated defensive air battle, which may involve the employment of USAF interceptor aircraft, surface based missiles, and air defense elements.

The design of the intelligence system for a low intensity conflict should examine each external interface to determine the EEIs (and formats) which need to be exchanged via these interfaces as well as the internal analysis and distribution within the USAF C³I system.

The evaluation of these interaces should address all levels of the various systems and identify the necessary interfaces/ interactions. These should include lateral and vertical interfaces in the same manner as the internal interfaces described above. The evaluation should also access the interoperability problems which may be encountered in the establishment of these interfaces and recommend solutions. The evaluation should further address what intelligence is to be provided through these interfaces and the EEIs that the USAF should receive through the interfaces. The security aspects of each interface should also be fully examined.

e. Further Design Considerations

The effectiveness of the intelligence system to provide USAF Commanders the intelligence they need to employ their assigned forces during a low intensity conflict (including joint and combined) will depend heavily on identifying internal and external interface requirements and establishing the nature of those interfaces identified.

The USAF will be both a provider to and a user of products of other intelligence systems. As such the level of analysis utilized to design the intelligence support system should be high enough to assure that all appropriate interfaces are identified so that the sum will result in providing USAF forces all the intelligence they need and no more, when they need it and in a form they can use.

4. Summary

The intelligence requirements for low intensity conflict must be based upon the frame work of operational concepts. The acquisition of an intelligence capability to support low intensity conflicts may require significant restructuring or modification of the on-going C^3I programs. This places much of the burden for integration upon the design of the intelligence capabilities.

The total intelligence effort should address both of the fundamental needs of the USAF in a low intensity conflict. That is the requirement for real time perishable intelligence data to support combat operations, and the requirement for exploited all source intelligence data on a continuous basis.

A strong case can be made to support the thesis that as the science of war becomes more advanced, the art of war becomes more decisive. Future battle outcomes will, as in the past, depend significantly upon:

- o Human Judgment,
- o Tactical Insight, and the
- o Quality of Command Decisions.

If the foregoing thesis is true, then an effective intelligence support capability may be an important, if not decisive factor, in future low intensity conflicts.

E. LOW INTENSITY CONFLICT INTELLIGENCE SUPPORT MODEL

1. Collection

All organizations in the intelligence community outlined in Section C should be tasked to provide any intelligence data relevant to the low intensity conflict. To the maximum extent possible,

intelligence collection should be accomplished with overhead satellite systems because of their non-intrusive nature. HUMINT collection should also be maximized, with emphasis place on potential terrorist activities, insurgency operations, sabotage, or special operation teams that may threaten friendly forces fighting in low intensity conflict. Additional real-time intelligence support should be provided by unmanned systems (UMN) or remotely piloted vehicles (RPV).

If intelligence collection must be augmented with manned systems, the data collected should be relayed by satellite back to the United States where fussion, processing, and exploitation centers already exist. Where possible, the intelligence data should be relayed directly to a satellite, thereby eliminating the requirement for another vulnerable ground station in the conflict area. If direct satellite relay is not possible, then the data should be data linked to a ground station outside or inside the conflict area that could relay the intelligence data through a satellite back to processing and analysis centers in the U.S. Ideally, the ground station relay would be located outside the conflict area. Figures 13 through 15 illustrate the intelligence collection concept.

2. Processing and Analysis

Relaying the collected data directly back to processing, exploitation, and distribution centers in the United States serves two important purposes. First, the need for a processing center in the low intensity conflict area is eliminated, thereby eliminating the need for costly ground facilities and reducing some security problems.

SATELLITE INTELLIGENCE COLLECTION FOR LOW INTENSITY CONFLICT

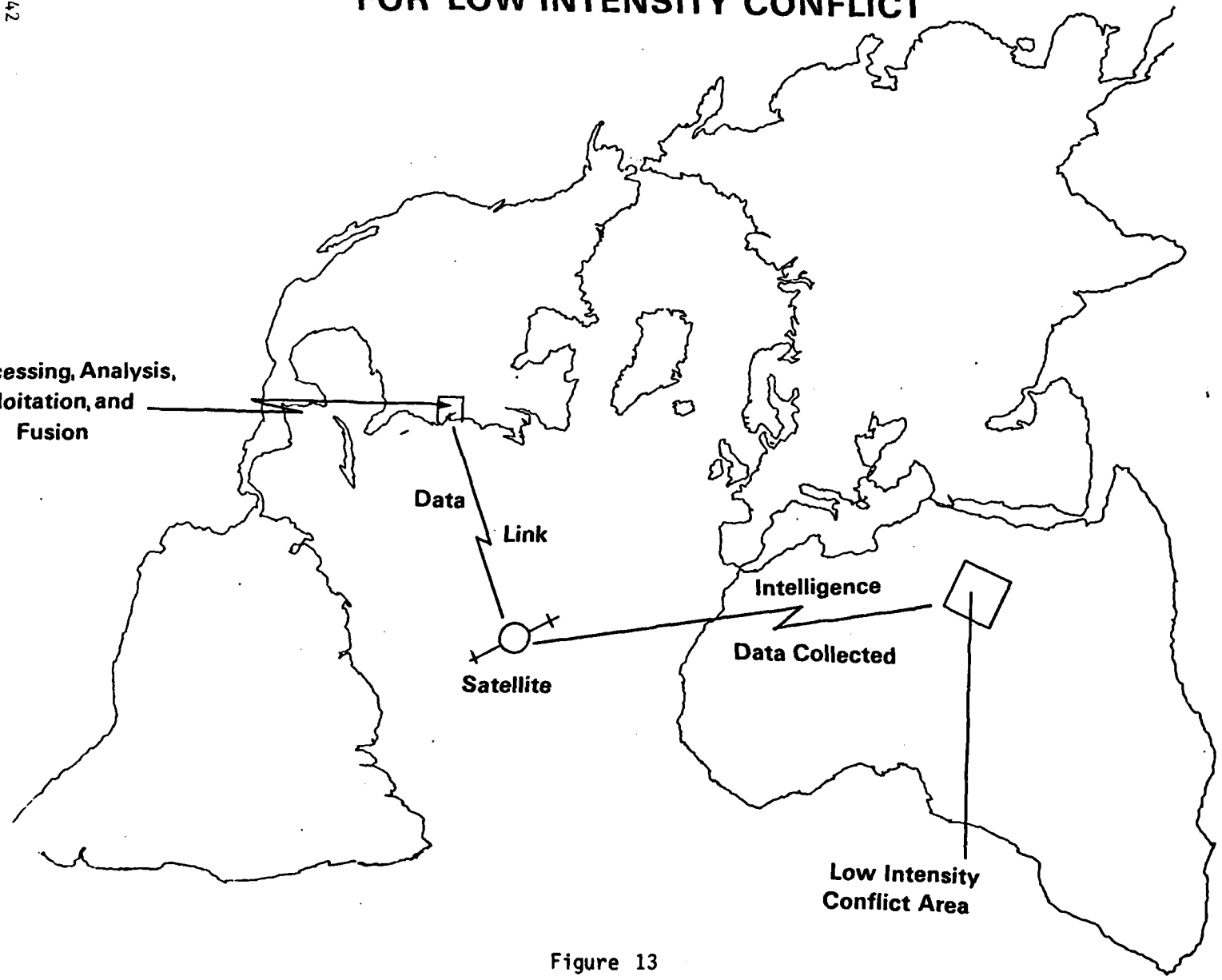

Figure 13

ALTERNATIVE AIRBORNE INTELLIGENCE COLLECTION FOR LOW INTENSITY CONFLICT AIRCRAFT TO SATELLITE RELAY

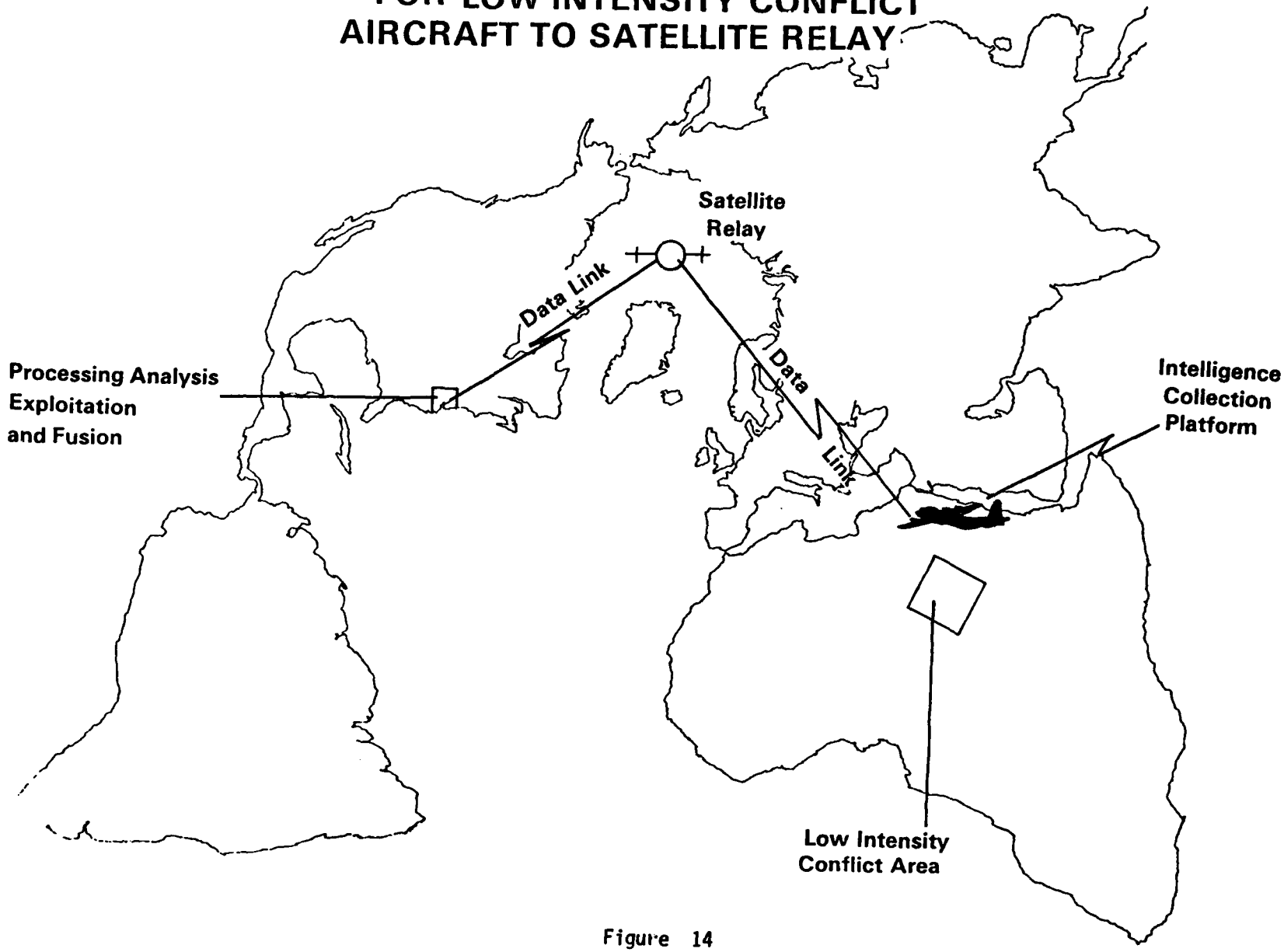

Figure 14

ALTERNATE AIRBORNE INTELLIGENCE COLLECTION FOR LOW INTENSITY CONFLICT AIRCRAFT TO GROUND STATION TO SATELLITE RELAY

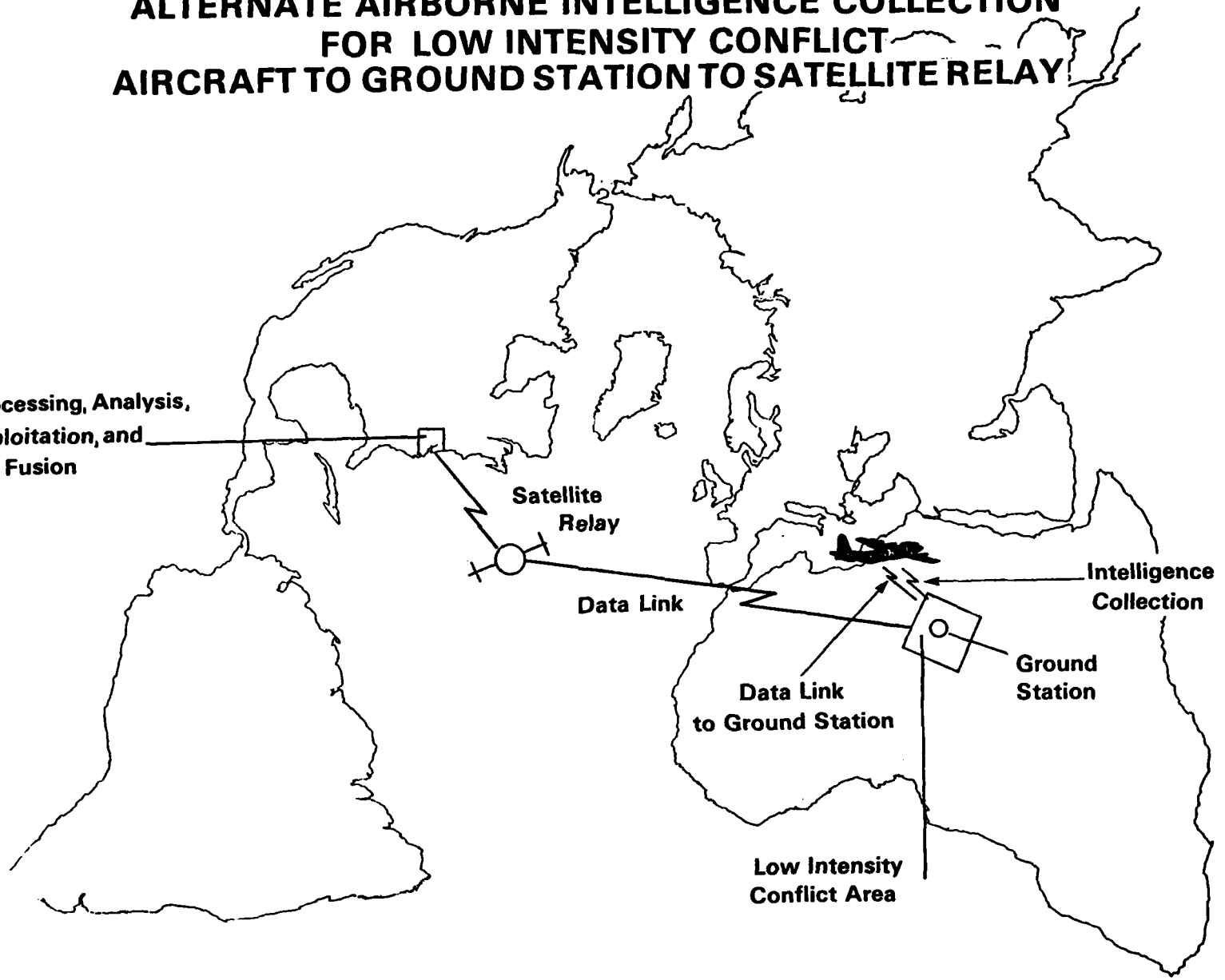

Figure 15

Second, this concept quickly gets the information back to permanent centers in the U.S. that are already manned by experts. Manning requirements in the conflict area are therefore reduced along with support requirements. The Intelligence Processing model is shown in Figure 16.

Once the collected data is received by the appropriate agency in the United States, perishable data would immediately be transmitted to the Low Intensity Conflict Fusion and Exploitation Center (LICFEC) and if appropriate, the data would in turn be relayed to the designated low intensity conflict users. Non-perishable data would be analyzed, fused, and exploited; then relayed to the LICFEC. The LICFEC would act as the single point of contact for all intelligence related to the low intensity conflict. All intelligence organizations would feed their data to the LICFEC, who in-turn would pass the data to the users in the Low Intensity Conflict Area or Theater of Operations. Again, perishable data would be passed immediately, while all source, correlated and analyzed data would first be fused and exploited before it was disseminated via satellite to the conflict area. Figures 17 and 18 contain a flow model and an organizational model for low intensity conflict intelligence support. Artificial Intelligence (AI) techniques could be used to automatically determine what data is passed immediately and what data is fussed before transmission. The AI inputs would be based on operational requirements and intelligence community requirements.

3. Targeting and Processing Techniques

There are several intelligence support techniques which can be used to assist operational commanders in a low intensity conflict. Some of these techniques include Direct Digital Targeting (DDT), Intelligent Preparation of the Battlefield (IPB), and Focused Processing (FP).

LOW INTENSITY CONFLICT
INTELLIGENCE DATA PROCESSING

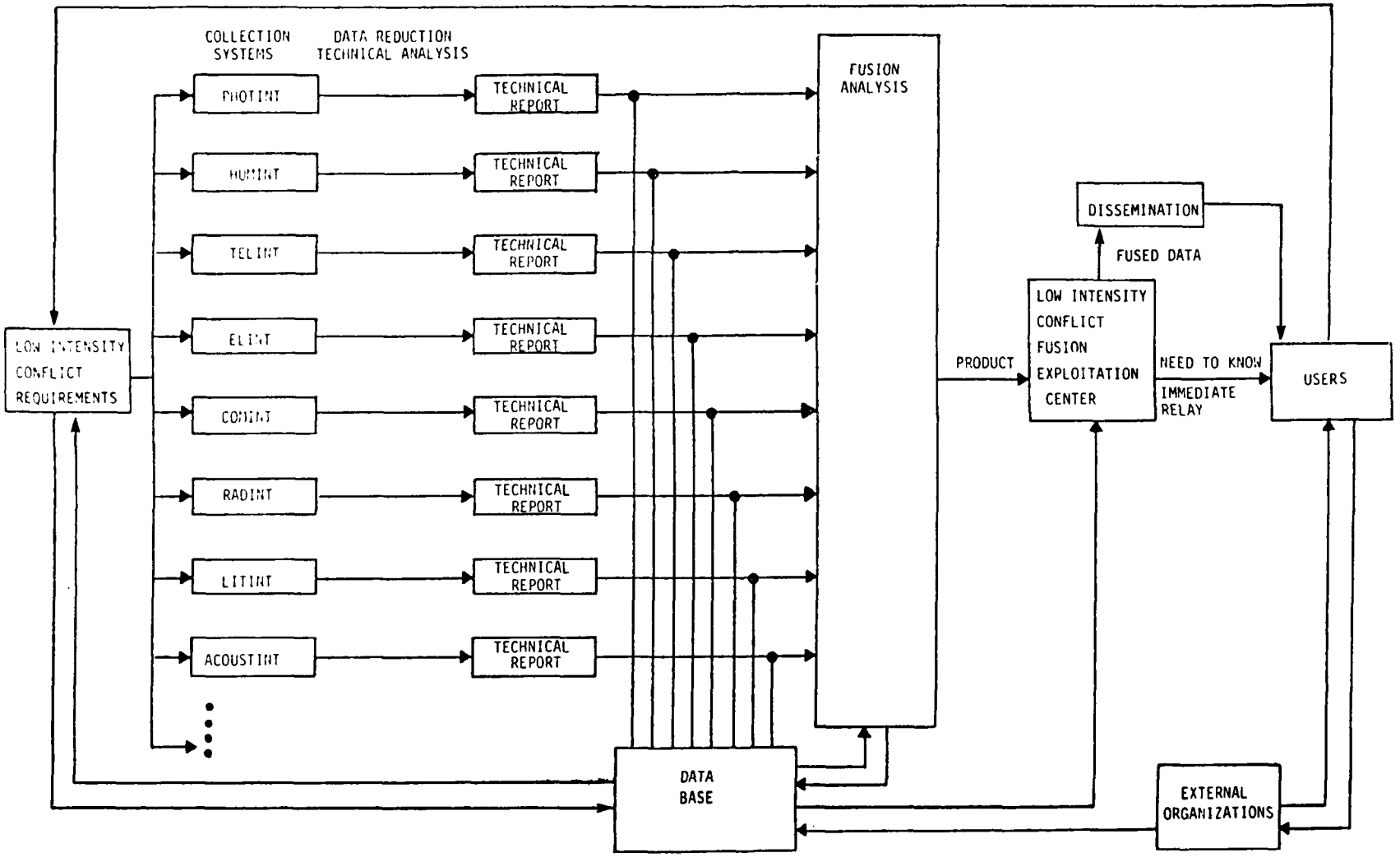

Figure 16

FUNCTIONAL INTELLIGENCE DATA FLOW MODEL FOR LOW INTENSITY CONFLICT

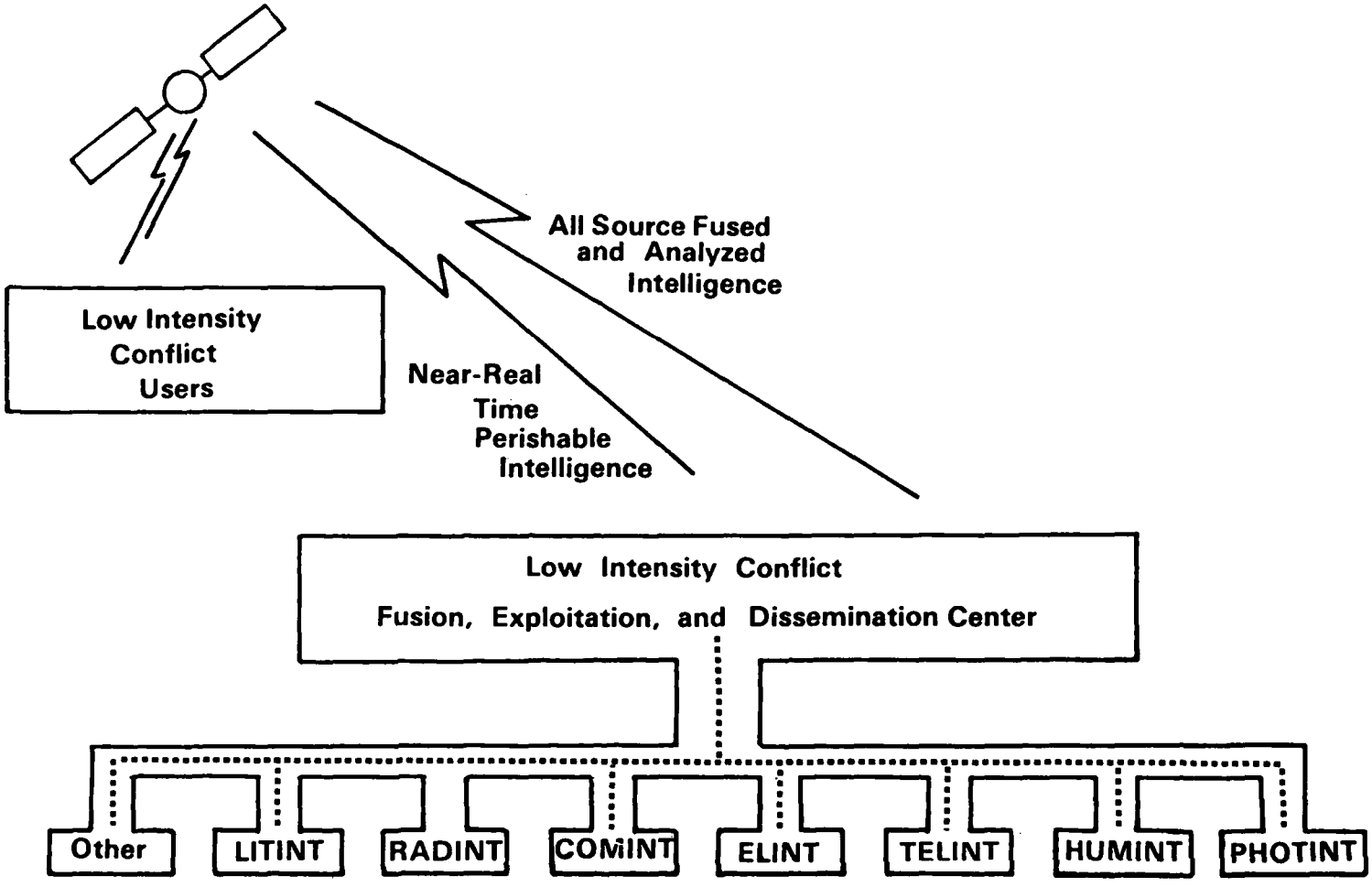

Figure 17

ORGANIZATIONAL DATA FLOW MODEL FOR INTELLIGENCE SUPPORT IN LOW INTENSITY CONFLICTS

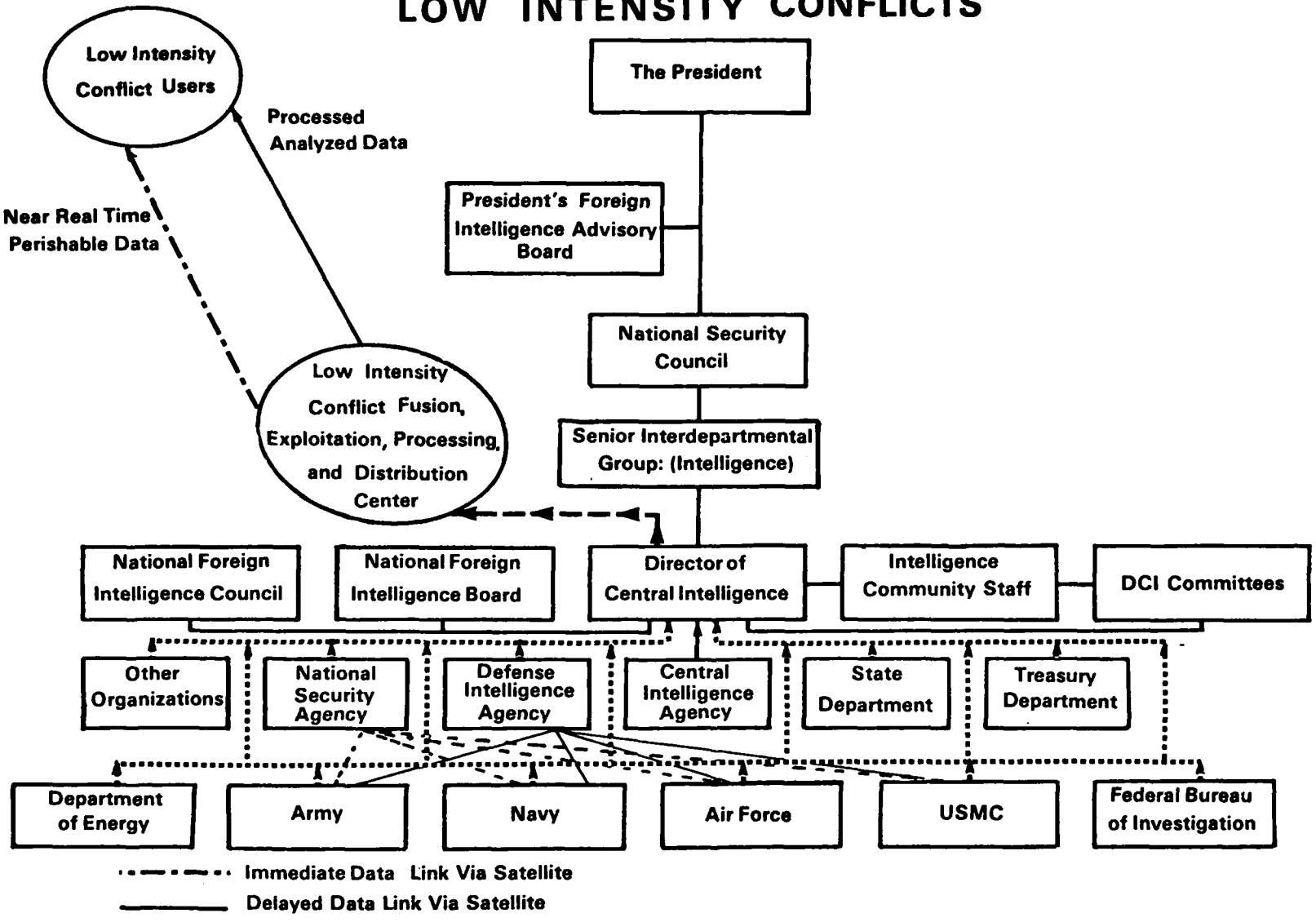

Figure 18

Once the conflict area has been identified all these techniques can be used along with Artificial Intelligence (AI) to help give the operational commanders and decision makers the intelligence support they need, in the format they need, in a timely manner.

Direct Digital Targeting (DDT) offers one approach to the timely exploitation of intelligence processes and target imagery. DDT is a response to an operational problem. That problem is the inability to process all the intelligence data available concerning the conflict in real time. The pace and movement of the battle dictates that the intelligence community take better advantage of near-real-time digital data. DDT makes it possible to develop a more rapid method of exploiting intelligence information needed at the tactical commander's level. Several technologies have evolved which make DDT feasible. First, most of the new state-of-the-art reconnaissance platforms provide digital output. Second, high quality, low error rate data is available. Finally, satellite sensors are available which have highly accurate attitude and positioning capabilities. This capability allows the intelligence processing centers to determine the geo-position of the target on the ground rapidly and accurately. Automation of this digital targeting process offers the opportunity to handle the vast amounts of data now available. Automation must also extend to the fusion and exploitation process.

Intelligent Preparation of the Battlefield (IPB) is another technique that can be used to speed needed information to the operational user in the low intensity conflict. IPB involves a comprehensive study of the conflict area either before the conflict occurs or immediately after the conflict begins. Focus is placed on locating choke points, identifying probable high priority targets, enemy force concentrations, air bases, ports, supply areas, critical C^3I nodes, etc.

This process can reduce the point targets, lines of communication, and areas that must be imaged and surveyed often, to those that really count. By using focussed collection and processing, the important targets can be located, identified, isolated, and processed first. Intelligent targeting also allows the intelligence community to capitalize on movement rates and dwell times. As Figure 19 indicates, certain targets are time sensitive. If the information gathered cannot be processed and disseminated to the tactical commander in time, important targets can be missed. The techniques mentioned, when incorporated with AI techniques can allow commanders to destroy time sensitive, fleeting targets. These methods are one approach to integrating imagery, and other forms of intelligence data through a fusion process, and expediting the target/strike process. The requirements are based on knowledge of the expected target types and target behaviors. IPB, exploiting near-real-time digital imagery, and employing timely and accurate communications can result in successful intelligence support for the combat commanders in the low intensity conflict.

4. Dissemination

Intelligence data from the LICFEC could be relayed via satellite to distributed mobile intelligence dissemination centers in the low intensity conflict area. Again, AI techniques could be used to determine automatic distribution of the data received, and to update information already available.

a. Shortcomings

Traditional attempts at automation of the dissemination function have resulted in a sequence of automated tasks rather than an automated sequence of functions. This approach has focused upon the

RESPONSE TIMES AND TARGET LIFETIMES

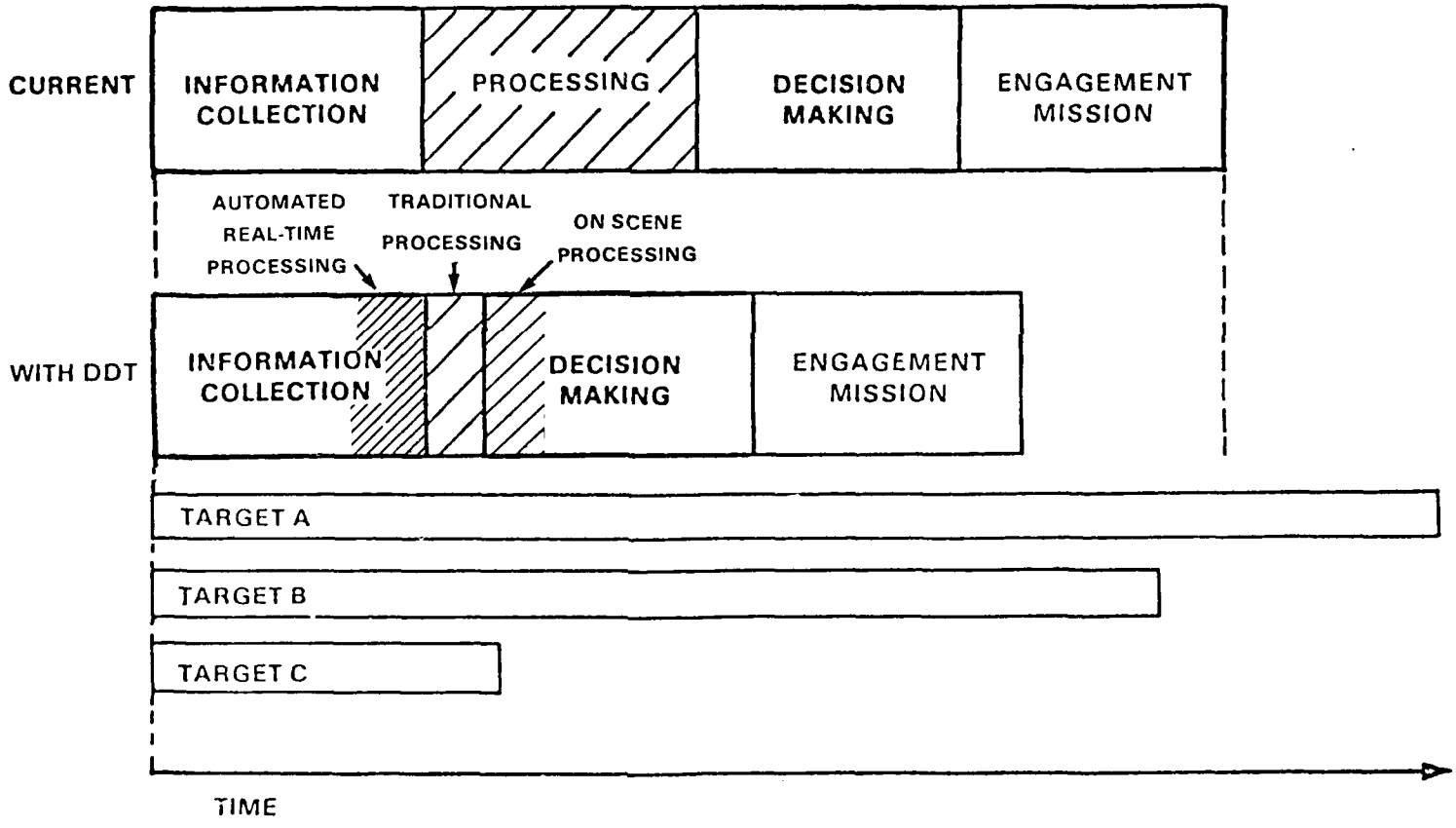

Figure 19

automation of the existing tasks within each area and has not addressed the elimination of tasks no longer essential in an automated process. Admiral Burkhalter, Director Intelligence Community Staff, Senior Military Advisor, Central Intelligence Agency says:

> "We are meeting the challenge of intelligence collection and analysis. The next big challenge we face is getting that intelligence to the forces that need it, when they need it and in a form they can use."[4]

Before examining the full impact of this statement, it is proper to examine the current dissemination function and identify some of the basic shortcomings which exist. Admiral Burkhalter's first point of emphasis is communications. He states, "We must ensure rapid, secure, survivable, high capacity communications service to every echelon of the operating forces." (Emphasis added)

Admiral Burkhalter's second point is that "tactical commanders - as well as their communications links - must be relieved of unnecessary quantities of information."[4] He alludes to a filtering process which will discard extraneous data before it reaches the tactical level; however, he further states, "even if only that essential information pertaining to the commander's responsibilities is relayed, the forward operational intelligence elements will still be overwhelmed." (Emphasis added)

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4 Signal, "Make Intelligence Operational," Vice Admiral E. A. Burkhalter, Jr., USN, Armed Forces Communications Electronic Association, Volume 38, Number 7, March 1984, p. 82.

General John W. Vessey, Jr., Chairman of the US Joint Chiefs of Staff describes the same problem:

> "I remember an instance - I call it the "water point" story - from my time as commander of forces in Korea. The most important messages from the forward forces during exercises were taking too long to get to me - a distance of only 40 miles. After a brief examination, I found that our message centers were jammed with too much information. In the command bunker, I saw dozens of busy people working as hard as they could on stacks and stacks of messages while crucial data for the commander's attention was held up. I went to one pile; there on top was the location of every water point in Korea. This "water point" message was typical of the messages which were plugging up the flow of critical, time sensitive information. It was clear to me that we were not employing C^3 in a disciplined way to provide the really important data to the right people, and in a timely manner."[5] (Emphasis added)

General Starry assesses the dissemination problem from a slightly different view: "Command and Control problems come at us from two directions -- one external, the other internal. Externally in the amount, type, source and frequency of information made available by modern communications systems; internally in the procedures, protocols, communications centers, message centers, and traffic priority systems we have heaped upon ourselves to handle and pass information. These detractors turn what is frequently called information fusion into confusion. In our operational reporting system, Army platoons report to companies, companies to battalions, battalions to brigades, brigades to divisions and so on. Every time information passes through one of those nodes, two things happen: it gets slowed up and it gets mixed up."[6]

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5 Defense 83 "Command Effectiveness and C^3", General John W. Vessey, Jr., USA, November 1983, pp. 4-7.

6 AFRP-100-1, Communications-Electronics Newsletter, "C^3 Survivability," General Donn A Starry, USA, Volume 20, Number 2, Spring 1982, pp. 1-2.

Admiral Burkhalter states, "rapid support is necessary - perishable intelligence cannot be delayed by being passed through successive echelons. Intelligence support personnel will have to be completely attuned to operational requirements."

b. New Approaches

Admiral Burkhalter suggests: "The solution is tailored intelligence support from facility controlled by the operational commander but located in a secure rear area. Communications links are crucial to this arrangement and, as I said, these need work...Usually there will still need to be intelligence officers on the receiving end of this tailored support. These are solvable problems, and they should be solved by each service with its unique needs in mind. Today, I sense a growing awareness of the need to solve this problem both within the services and at the senior management level of the Department of Defense."[4]

General Vessey adds further insight:

> "In our command arrangement, information flows up and down a ladder. command authority, coordinated intelligence, policy, and strategy flow down to the field commanders. Operational reports, and raw information flow back up; and information must flow laterally, too. It may skip a rung or two descending or ascending. Nevertheless it is a system disciplined by the principle that flexibility and initiative be so delegated that decisions are made at the lowest possible level. The result is that flexibility is bestowed, along with the resources, authority, and responsibility, to the fellow who can use it to best advantage, the commander on the scene.
>
> "We should not be lured into tying the infantry squad or the cockpit or ship's bridge to remote command centers just because we have the capability to do so.

"Don't give substance to the idea of a communication link from a pilot or a ship's ensign to me here in Washington, just because we have the capability to do it. I don't want to talk to him; what's more, he certainly doesn't want to talk to me!

"We must allow local commanders the necessary rattle-room to exploit the situation or to resolve problems under a system in which orders are given as broad descriptions of the intended outcome, rather than detailed descriptions of what precisely is to be done."[5]

General Starry also addresses the dissemination of information and the number of essential elements of information (EEIs):

"Historically, the successful commanders -- Patton, Montgomery and other -- have taken extraordinary means to bypass the slow up/mix up caused by sequential reporting systems. In Third Army operations in Europe in 1944-45, General Patton used a mechanized cavalry group whose forward elements reported directly to the Army headquarters from leading battalion tank forces. These cavalry elements reported where the lead tank forces were, what they were doing, and how the fight was going. This Army Information Service provided but a few essential elements of information. (Air Force fighter pilots are given lists of 15 to 20 EEIs and are expected to report coherently after an hour or so at 5Gs and 500 knots.) General Montgomery's Phantom Service, although a somewhat different structure, provided essentially the same kinds of information. It gave Monty what he needed to execute the battle."

"In Viet Nam, heliborne commanders literally hovered over the battle gathering firsthand the information they needed; even then they were hard pressed to pass critical bits to superiors or subordinates. All to frequently commanders hovered over one another, all asking like questions or talking at the same time."[6]

In essence, these leaders are all addressing the dissemination and content of intelligence support necessary for combat decision making. Their individual expressions may seem to have minor contradictions; however, their challenge is: GET THE RIGHT INFORMATION TO THE RIGHT COMMANDER IN THE RIGHT FORM IN TIME FOR HIM TO MAKE A CORRECT COMBAT DECISION. Their proposals involve reducing the number of EEIs, eliminating sequential reporting systems (as well as unnecessary links), and tailoring the intelligence product to the commander's need.

It is interesting to note that many of these foregoing suggestions pertain to improving the dissemination function, based on an assessment that the current intelligence system is not fulfilling its fundamental "raison d'etre" of providing commanders the intelligence they need. The assessment that Collection and Analysis functions are meeting the challenge also supports a thesis that there has been a subtle shift of emphasis in developing intelligence capabilities. Some of the root causes may be inherent to the bureaucratic nature of the intelligence organization. Others may be related to the expanding need for large quantities of intelligence to support research and development efforts. Still others may be indicative of intelligence for intelligence sake. Certainly the application of automation technology, along with sensor and analysis technologies, have contributed to inward looking advances. To some extent, the relative respite from active tactical combat operations has contributed to the situation because no real demands have been placed upon the intelligence process by ongoing hostilities. It could be problematical. If the existing intelligence processes were put to the test of providing that operational intelligence to commanders, in near real time, under the pressures of an intense shooting battle, the dissemination problems might be more easily identified.

There may be other reasons why the dissemination function has failed to keep pace; however, there is sufficient cause to question whether the existing organization of intelligence tasks and functions is sufficient to meet the demands for intelligence support in a low intensity conflict. If there is cause for concern that existing intelligence dissemination function is no longer oriented to the commander's needs, then this concern may warrant an agonizing appraisal of the dissemination process itself. This appraisal should go beyond resolving problems within the context of existing organizational structures and divisions of responsibility. The appraisal should include the definition of organizational structure and responsibilities which may be necessary to automate the intelligence process as an entity.

The tendency to automate the tasks of distribution, based upon current manual methods, will most likely fail to achieve an effective dissemination function, let alone improve the intelligence support process. One must also question the assertion that the collection and analysis challenges are truly being met - or are collection and analysis still a contributor to the dissemination problem? It is true that our advanced technology has provided us with extremely capable sensors which employ a variety of means to sense activity - Photography, Infrared, Electro Optical, Radar, multi-spectral, etc. These multi-source collection capabilities, however, are often employed in accordance with what must appear to be a "vacuum cleaner" strategy.[7] This leads to possible "over collection" and adds to congestion in the communications systems, and involves time to

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7 There are instances when a vacuum cleaner strategy is not exclusively used. Many of these efforts, however, have a very specific and limited application which may or may not provide data of direct application to operational commanders involved in low intensity conflicts.

filter the essential from the nonessential. Additional penalties can be incurred during analysis due to improper filtering, or worse yet erroneous products may result from essential elements being filtered out. The popular cry is for more information. Perhaps better or more recent would be better objectives. In many cases the "need" for more information can effectively transform a decision cycle into an indecision cycle.

The Very High Speed Integrated Circuit (VHSIC) technology holds the prospect of greater dissemination capabilities. By the same token, some gains may well be accrued from overlapping the dissemination function with analysis. One can envision that as information is being processed through stages of technical and fusion analysis that at various points intelligence is produced at various levels of refinement. Further, some needs for intelligence may be satisfied by a lower level of refinement than others. For example, the results of a technical analysis of certain ELINT data may be useful in planning collection missions to exploit/confirm the existence of a given emitter. Such intelligence could be "skimmed off" for distribution without interrupting the overall analysis process. The question the system designer must ask himself is twofold: First, must the tasks within a function be sequentially performed and completed prior to the initiation of the next task? Second, must the functions in the process be sequentially performed and completed prior to the initiation of the next function? In answering these questions, one might even find that there exists a redundancy at the task level which could be eliminated with a considerable savings in time.

Related to this issue is the one which has already been raised pertaining to the traditional methods of tasking, requesting, and reporting up and down the "chain of command". These methods often involve consolidation, evaluation, and conscious decisions to forward or not forward the information at each level. Admiral Burkhalter has

indicated that an intelligence officer would still be required at various levels, however, there is not sufficient evidence at this point to arrive at this conclusion. One of the main reasons for intelligence personnel at the various echelons is to perform the consolidation and to make the decisions pertaining to additional dissemination. Further, there is a distinct "language" used by the intelligence community. Lower level intelligence officers are often required simply to translate the intelligence received at that level. In addition, intelligence is often conveyed over dedicated communications links which are separate from operational links. This problem can be reduced at lower levels through a combination of automation, training, formatting, and communications network design.

One other carry-over of the traditional into the automated is the concept of what a message is. For example, General Vessey referred to the large numbers of people sifting through stacks of messages. In fact, the "water point" message lay on the top of one of these stacks. The departure from the sequential processing of reports may have precluded that message from even reaching the headquarters, having been filtered out earlier, but another aspect still exists. That aspect is the common perception of the "message". One can envision the process where the "hard copy" message, encrypted/decrypted in the transmission process arrives as a piece of paper which, of itself, has a completeness. Someone must read the paper, digest the contents, and then decide upon the proper action, which might be a new "hard copy" message which also must undergo human processing. Formatting the contents, and standardizing certain categories of repetitive messages, is a partial cure. A basic question in the age of automation must be: what constitutes a message? Assuming that "water point" information is important to some user, computer to computer communications in which the "message" is graphic

may be an effective way of reducing human processing at several levels. The real user could then request that the information be displayed upon a large screen or local terminal. In many cases such information could be automatically provided to principal users and be available to secondary users as "on call" data. A scheme of distributed, yet netted data bases, could produce a revised concept of what a message really is. Such a system could be enhanced by the application of electronic mail and signals to advise the requestor that his "message" is accessible. The varied nature of projected USAF and military operations in low intensity conflicts dictated the requirement for a new and different intelligence dissemination system. The new dissemination system must be highly responsive, flexible, and survivable. The primary challenge will be to satisfy operational requirements during low intensity conflicts, and provide the capacity to accommodate future growth needs. The flexibility required of a dissemination system of this nature seems to dictate some form of a mobile distributed C^3I network that is highly automated.

5. General Characteristics

The Low Intensity Conflict intelligence support system must provide timely, accurate and pertinent intelligence information to support operational decision making at all national and military levels. To meet the varying operational demands placed upon it, the intelligence system must be:

- o SECURE. In addition to physical security of facilities and equipment, both the intelligence product and intelligence sources must be protected from compromise.

- o RESPONSIVE. The system must be responsive in time and form. To accomplish this the system should be:
  - oo Accessible. Commanders and leaders at many levels need direct access to the system. The time lost processing a request and disseminating responses could exceed the useful life span of the intelligence.
  - oo Discriminating. The system must filter the volume of detailed information collected and disseminate and provide only those pertinent intelligence products needed to support the operational decision makers.
- o MANAGEABLE. USAF operations require the centralized management of certain aspects of the intelligence system.
  - oo Intelligence management collection, analysis and distribution should be institutionalized to optimize responsiveness to prioritized operational requirements. Centralized sensor tasking authority can ensure optimum utilization of assets and allow a cross-tasking capability.
  - oo Data Base Management. Current data bases are essential for assessing enemy capabilities and making projections of his intent. Centralized management can ensure inputting of new data, archiving selected data, and purging data that is no longer useful. Further centralized management can avoid unnecessary proliferation and fragment--ation by adjusting existing data bases to meet new demands.

- o SURVIVABLE. The system design should eliminate key or critical nodes, which if lost would totally disable the capability. The design should also avoid vulnerable combinations of nodes, the loss of which would significantly degrade the intelligence support capability. Communications links must be jam resistant.
- o RELIABLE. The system must provide consistently valid and reliable intelligence. An operational force cannot afford to expend resources to counter a threat which does not exist nor fail to engage one that does exist.
  - oo Individual sensors must have high reliability standards.
  - oo A multi-source collection capability and effective fusion analysis can counter intended deceptions and false sensings.

Figures 18 and 19 represent flow and organizational models that could be used in providing the type capabilities needed by operational commanders to meet current and future low intensity conflict threats. The intelligence support improvement effort should be securely based in a program for the near-term which could provide a limited immediate operational capability, training and experience, tests to prove concepts and procedures, and the ability to transition to a more sophisticated operational capability later. The objective should be to develop the ability to collect, process, analyze, fuse, exploit and disseminate sufficient intelligence data to satisfy USAF and other military users in the low intensity conflict area.

6. Concept Implementation

C^3I architecture could be made part of the Defense Intelligence Agency's Intelligence Communications Architecture Program (INCA). This program involves a multi-year project to improve the

timely flow of intelligence to tactical commanders. Low Intensity Conflict intelligence support should fall into that category. The INCA Project Office could be designated the Office of Prime Responsibility (OPR) for intelligence support in a low intensity conflict. The architecture should address communications, collection systems, relay systems, hardware, software, procedures, policies, organizational issues, and security. The development program should solve those issues related to cross service, cross discipline, joint and combined force standardization and interoperability. It should concentrate on wartime needs for the operational commander in the Low Intensity Conflict, and emphasize the flow of both tactical and national intelligence to the operational users. The program should also include the necessary features required to test the system during exercises. The Low Intensity Conflict Fusion Exploitation Center could be an arm of the Defense Intelligence Agency or Director of Central Intelligence. Existing systems like the Coordinated On Line Intelligence Network (COIN), Intelligence Data Handling System (IDHS), and other intelligence networks should be exploited to the maximum extent possible in the design effort.

F. SUMMARY

A review of the unclassified literature and discussions with knowledgable individuals indicates that there is a growing need for timely, tailored intelligence support for the multi-service combat forces that may be required to deploy into a low intensity conflict area. This requirement and the proliferation of microcomputers is changing the traditional chain of command for intelligence flow. The increasing use and role of microcomputers in command, control, communications, and intelligence is causing "bottom-up" pressure on the intelligence system. The increasing mass of intelligence data from a variety of sources dictates the need for "fused intelligence" tailored to the local threat. These trends have dictated the need for

a centralized intelligence fusion and exploitation center to support commanders and political decision makers involved in the increasing number of low intensity conflicts throughout the world that require a military presence. Satellites should be used to the maximum extent possible to collect intelligence data and disseminate information to the low intensity conflict area. HUMINT should also be used extensively in the low intensity conflict area to assist decision makers at all levels.

G. CONCLUSIONS

1. The next 10-15 years will be a period of great uncertainty. This uncertainty and the current world-wide situation add to, rather than diminish, the urgency to make force structure decisions now which are related to intelligence support for Low Intensity Conflicts. It takes time to develop intelligence support beyond the time required to design, develop, and procure hardware and software. Therefore, it is urgent to use time, while it is still available, because current regional or extra-regional events could increase the probability of the USAF being involved in low intensity conflicts.

2. The need for the USAF to employ its resources and forces in joint and combined operations will continue to increase. Military cooperation among all the services will become a greater factor in maintaining regional and world-wide stability.

3. As the mix of USAF forces increases, and as the employment missions expand, the need for better intelligence support to employ these forces in composite low intensity conflicts also increases.

4. Although there will be significant changes in the threat, there will not be a direct one-for-one change in intelligence support system requirements. Because intelligence support is a process as well as a means, evolution or modifications to account for changes in the threat do not necessarily involve new acquisitions of equipment, or facilities, etc.

5. A single point of contact for the fusion, exploitation, and dissemination of intelligence data to operational and support commanders involved in low intensity conflicts can be developed and established with minimal acquisition of new systems.

6. Perhaps the most important challenge is for the USAF to use their acquired knowledge and experience to promote greater cooperation among the various intelligence services to achieve the goals of interoperability and cooperation pertaining to intelligence support in low intensity conflicts.

7. The design of an intelligence support system for low intensity conflict should embody the best estimate of required capabilities for 1995. The USAF focus should be to support the development of an intelligence system capable of supporting all air combat missions and support operations that may be required during low intensity conflicts.

8. The dynamic nature of projected USAF and military operations in low intensity conflicts dictates the application of intelligence support systems that are highly responsive, flexible, and survivable. The primary challenge will be to satisfy established operational requirements and provide the capability to accommodate future growth needs. To meet this challenge some form of distributed network processing should be considered.

9. Although a variety of intelligence support networks now exist, few in their current structure satisfy the demands of real-time tactical operations that would be required in low intensity conflicts.

10. The intelligence support system selected must consider collection, correlation, analysis, fusion, exploitation, and distribution systems that exploit new distributed processing and data communications techniques. It must incorporate several large intelligence systems already in existance and numerous remote users connected via various gateways including fiber optics, line-or-sight microwave, and satellite. The system must be capable passing both secure or unsecure communications.

11. The intelligence support system for low intensity conflicts must accommodate transaction traffic which deals with short bursty real-time messages, and stream traffic that is characterized by long and evenly distributed data with high throughput requirements.

12. The intelligence support system for low intensity conflict must be fault tolerant with no single point of failure. Redundancy of various system components may be necessary to achieve this goal. The system should allow quick diagnosis of any failures and automatically switch to alternative routing whenever necessary.

13. The intelligence support system should have the ability to send intelligence data from process to process and be assured of its reliable delivery without the necessity of establishing a lengthy connection. This may require that protocols take on the added responsibility of providing robust network-wide flow control. A flexible buffer management scheme may also be required.

H. RECOMMENDATIONS

1. The development of an intelligence support systems model for low intensity conflicts. This model should be used to determine intelligence support requirements, to ascertain impacts of changes, and to evaluate candidate elements for acquisition.

2. The intelligence support system for Low Intensity Conflicts should include collection, correlation, analysis, fusion, exploitation, and distribution systems that exploit new distributed processing and data communications techniques.

3. The intelligence support system for Low Intensity Conflicts be designed to be fault tolerant and accommodate both real-time transactions and stream traffic. The system should incorporate all intelligence systems already in existence and connect the systems through a central point of contact to remote users via various gate-ways such as fiber optics, line-of-sight microwave, and satellite data links.

4. The adoption of a systems approach to the development of low intensity conflict intelligence support requirements. Although a systems approach is important, equally important is the interaction between the "real" user, the provider, and the developer. Experience has shown that "surrogate" users are generally unable to represent the actual user requirements adequately to ensure that the resulting system will fulfill existing or projected needs. This lesson is one which should be studied carefully as the various intelligence support programs and system integration options are considered. For successful intelligence support systems

development, the "real user" must assume certain responsibilities. The intelligence community should organize to help discharge these responsibilities effectively and provide for the single management of a low intensity conflict intelligence support system. In other words, intelligence support system development should depend upon real user inputs rather than "surrogate user" perceptions.

5. The intelligence support system architecture for a low intensity conflict should consider ground intelligence systems, naval intelligence systems, AWACS, airborne reconnaissance systems, satellites, and other options.

6. The Defense Intelligence Agency (DIA) should manage the master schedule and intelligence support program for low intensity conflicts to assure that all elements of the intelligence support system are effectively developed. The perspective of total system development must be employed to ensure that successful subsystem programs result in an effective overall intelligence support system.

7. The DIA should establish a Low Intensity Conflict Fusion and Exploitation Center consisting of expert personnel from all the intelligence services to provide a single point of contact for intelligence support related to low intensity conflicts.

8. All intelligence organizations should feed appropriate data to the Low Intensity Conflict Fusion and Exploitation Center. To meet this challenge some form of distributed network processing should be considered.

9. The USAF should provide support and expertise to a panel of representatives from all intelligence agencies to assure that interoperability of all USAF C^3I systems is achieved.

10. The development of a phased training/exercise program to achieve individual, element, and system readiness for intelligence support for unilateral, joint, or combined USAF combat operations in low intensity conflicts. This group of exercises should also provide feedback necessary to adjust intelligence support system's architecture to meet user requirements.

11. Continuously review the intelligence support systems architecture to detect oversights and changes in requirements.

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BRITISH AIR POWER IN THE FALKLANDS CONFLICT

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INTRODUCTION

This paper considers the use of air power by one nation in a recent low intensity conflict, in order to serve as an illustration of possible constraints, implications, advantages and penalties of such use in other future actions. The Falklands conflict was short - just ten weeks; it was remote - some 8,000 miles from the United Kingdom; and it remained restricted to the two original states. These circumstances made it unusual, and restrict the validity of all but the most general deductions about lessons for other conflicts. Nevertheless, an examination of the use of air power is of interest because all the traditional conventional roles were employed by the British forces with varying degrees of effect and success.

Professor Lawrence Freedman has described it as:

> 'A curiously old-fashioned war. We have become used to wars of political complexity and strategic confusion. Such modern dramas were underway in the Middle East and Central America in 1982, compared with which the Falklands War came and went like something from the Victorian stage: a simple plot, small but well defined cast of characters, a story in three acts with a clear beginning, middle and end, and a straightforward conclusion that everybody could understand.' (1)

While such an analysis has a comfortable academic ring to it, the student of this drama should not forget that over one thousand men died in the short engagement, in order to determine the future for the eighteen hundred inhabitants of these remote islands.

The British public and parliament were affronted by the invasion of the Falklands by the Argentine forces on the morning of 2 April 1982. In the emergency session of parliament on Saturday 3 April, the Prime Minister announced

that:

> 'The Government have now decided that a large task force will sale as soon as all preparations are complete. HMS Invincible will be in the lead and will leave port on Monday.' (2)

Thus, in the first phase of the operation, the power projection necessary was seen publicly as a naval task, with the expectation that embarked troops would provide land forces for recapturing the islands should that prove necessary. What had air power to offer during this initial phase?

AIR POWER AS THE TASK FORCE SAILS SOUTH

In order to assess the contribution that air power made while the task force sailed to the South Atlantic, the geostrategic considerations merit further consideration. The Falkland Islands lie some 8,000 miles from the UK mainland, while only some 400 miles from Argentina. The nearest British territory with adequate port and airfield facilities for use as a base was at Ascension Island, just at the halfway point between the UK and the Falklands. To put that in perspective, it represents a more extended line of communication than if the United States had used London Heathrow as a forward operation base for operations in the Gulf. Compounding the difficulties of such extended lines of communication, was the limitations of a force, which was primarily orientated towards defence of the NATO region and of the UK. In June 1981 the British Government has restated its belief that the North Atlantic Alliance was at the top of its priorities. Addressing the question of other commitments it said:

> 'Finally, we exploit the flexibility of our forces beyond the NATO area so far as our resources permit to meet both specific British responsibilities and the growing importance to the West of supporting our friends and contributing to world stability more widely.' (3)

The political imperative to get the task force sailing in such a short time - the invasion took place on Friday 2 April, and the task force sailed on the Monday following - meant that much of the detailed organisation depended on the support which would be available from Ascension Island. Indeed the first aircraft of what was to become a massive and continuing airlift operation was despatched to Wideawake airfield on Ascension Island on 3 April. Air transport as an instrument of military power is sometimes undervalued. All armed forces are critically dependent on their legistics support, and as military technology has improved this dependence has become greater rather than less. While air transport will never achieve the lift capability of surface methods, its speed and range give it an irreplaceable role in all operations; particularly those over extended lines of communication.

The Ascension base expanded rapidly from 25 men to 800 personnel in three weeks, and peaked at some 1,400 including those in transit. C130 Hercules, taking eighteen hours to fly from the UK bases, and VC10 transport aircraft brought men, equipment and logistic support. For repositioning of payload, extensive use was made of rotary wing assets. This lifeline, prepositioning equipment for the task force as it sailed south, and subsequently keeping the flow of supplies going, was arguably an element every bit as vital to success as the offensive operations. As the task force travelled south of Ascension, the air bridge extended to provide airborne supply drops to supplement the Royal Fleet Auxiliary and Merchant Navy shipping as a method or urgent resupply. Air transport offered an essential capability that suffered from its inherent lift limitations. Thus merchant shipping transported 9,000 people and 100,000 tons of freight, while fixed wing aircraft moved 5,800 people and 6,600 tons of freight. The implications of this for any future operations must be the establishment of a firm priority system for air cargo. With only a percentage of the total lift required able to be delivered by air, the commander must ensure that the most effective use is made of this powerful asset.

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If establishing a forward operating base was critical, then ensuring its security was also vital. While the Argentinian power projection capacity might appear limited, an undefended airfield on Ascension Island would have been a lucrative target for carrier-based aircraft, or even an Entebbe-style attack using C130s. An early warning radar was rapidly installed on the island's high point to provide good radar cover. Initially, Harrier GR3 aircraft re-equipped from their ground attack role with AIM-9L air defence missiles provided fighter support. When these were deployed south to the Falklands, they were replaced by Phantom air defence aircraft. The requirement to defend critical nodes in any supply chain remains a planning consideration for all future operations. For limited threats, economical solutions may be available through multi-role tasking of air resources.

Before hostilities commence, the acquisition of intelligence as to enemy intentions and force dispositions is an area of major concern to any commander. Air reconnaissance provides an important part of the overall intelligence picture. Yet again the vast distances involved in this conflict made such reconnaissance difficult to mount. While the UK was fortunate to include the Nimrod maritime reconnaissance aircraft in its inventory, it was tailored to a North Atlantic scenario. Before it could be used over the full area of maritime interest, it needed to be fitted with an air-to-air refuelling capability. It took just 21 days from the decision to install the equipment to its operational deployment. Additionally an offensive capability was added in the form of air-to-air missiles, gravity bombs, the anti-shipping Harpoon missile and the Stingray advance torpedo. In the interim, reconnaissance could be mounted where possible by Nimrods, supplemented by suitably modified Victor air-refuelling tanker aircraft. For the future, the need for extended operation capabilities for maritime reconnaissance aircraft is proven. Giving offensive capability to support aircraft where possible is also a sound principle for contingency planning.

THE TASK FORCE IN THE SOUTH ATLANTIC

On 30 April 1982 the Total Exclusion Zone (TEZ) around the Falkland Islands came into effect, and the campaign moved into its second phase. The task force was in place and its continuing safety was a major concern for its commander. The threat was from submarines, surface vessels and offensive air. The Royal Navy is well practised in its anti-submarine warfare role, and could use its organic air assets (its Sea King helicopters), in their normal operational role as part of the anti-submarine defensive screen. Once the Argentinian cruiser, the General Belgrano, had been sunk on 2 May 1982, and the Argentinian navy withdrew to coastalwaters, the surface ship threat was much diminished. The major problem remaining for the security of the force became the maintenance of control of the airspace. Sea Harriers embarked on HMS Hermes and Invincible, armed with guns and AIM-9L Sidewinder missiles were a potent, although small in number and previously unproven in combat, air defence force.

The 28 Sea Harriers flew over 1,500 combat air patrol missions, with a 95% daily availability and 99% of planned missions were flown. The Argentinians could field over 200 frontline aircraft of varying capability. The British could not provide airborne early warning cover, which made it prudent for the carrier to operate well to the east of the Falklands, thus limiting the patrol time of the Sea Harriers. The air defence arrangement was layered, with the Harriers providing the interception capability, and ship-based missiles and guns providing the closer in defences. The analysis of dissimilar fighter engagements, Sea Harrier v Mirage, is limited by the relutance of the Argentinians to engage the Sea Harriers after 1 May 1982. On that day, 2 v 2 engagements, showed that the Mirage's early B-variant of Sidewinder were easily avoided by the Sea Harriers. The combination of manoeuvreability and the effectiveness of all aspect AIM-9L with laser proximity fuzing gave no such opportunity to the Mirages when Sea Harrier pilots positioned for attack. Two Mirages were downed and another probably hit that day.

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By the end of the conflict Sea Harrier had twenty confirmed kills and three probables and had sustained no losses from air-to-air combat.

The Government report on the lessons learnt from the conflict [4] drew the conclusions that:

'The battle for air superiority was vital to the success of the Campaign.' [5]

'The value of the medium-range air defence missile, Sea Dart, was evident in the eight kills it achieved. The known capability of the system also deterred many attacks and forced the Argentine aircraft to fly at low altitude, which made them easier targets for other systems and often prevented their bombs from fuzing.' [6]

'Although designed primarily as a self-defence weapon against missiles, the capable Sea Wolf point defence system was used against low-level attacking aircraft. In this role it shot down five Argentine aircraft. No opportunity arose to use Sea Wolf against missiles. The flexibility of this system was shown by the speed with which its software was adapted to cope with low-level aircraft attacks.' [7]

'The absence of AEW was a severe handicap against Argentine air attacks mounted at very low level, especially at San Carlos where the radars deployed suffered considerable interference from surrounding high land. The lack of AEW also provided an important limitation in the task force's ability to deal with the threat from Exocet by intercepting the aircraft carrying it before the missile could be launched.'

'The threat posed by the sea-skimming missile, Exocet, was well understood before the operation; and counter-measures to deal with it were available to the task force. Additional electronic and other

measures were very quickly devised and deployed to the South Atlantic. For example, chaff was extensively and successfully used.' (9)

'Other areas for improvement which have been identified in the ship-borne air defence field include:

a. The need for a point defence weapons system for high value units. As an interim measure the American Vulcan-Phalanx gun system has been mounted on HMS Illustrious and HMS Invincible and low-level air defence guns have been fitted to a number of other ships.

b. The need for more realistic training. In particular all ships need to be fitted with a wide range of on-board trainers if the Royal Navy is to optimise the performance of its high technology systems. There is also the need for more realistic targets for the peacetime training of air defence weapon system operators.' (10)

For future operations, the need to maintain air superiority will remain as important as it has always been in the past. To achieve this control of the air will require the traditional mixture of aircraft, missiles, guns and defensive counter measures. The Harrier's unique VSTOL ability gives the opportunity to provide a very capable air defence aircraft at considerably lower cost than the traditional large aircraft carrier. However, to exploit this capability to the full requires modern AEW support.

No successful military operation can be confined to purely defensive measures. The establishment of the TEZ was also the signal for the commencement of offensive operations by the British forces. On 1 May, the first attack on the Argentinians on the Falklands Islands was undertaken by a Vulcan B2 bomber, which dropped twenty-one 1,000 lb conventional bombs on the airfield at Port

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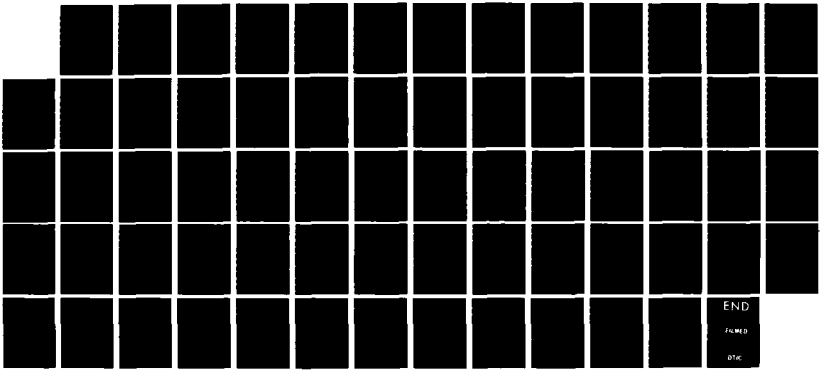

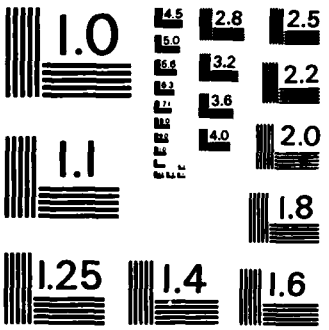

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS - 1963 - A

Stanley. To mount this attack from Ascension Island had required an enormous effort. The Vulcan had celebrated its twenty-fifth anniversary in service the previous year. Much of its equipment dated from the Sixties, and its air-to-air refuelling capability had not been used for many years. The refuelling system was rapidly refurbished, the conventional bombing system reinstalled, and crew training undertaken. A self-defence electronic counter measures pod was fitted under one wing, and precision navigation equipment for the eight thousand mile round trip was installed. On a high-low-high profile attack, the Vulcan refuelled six times en route to the target. This required a massive Victor tanker support operation to provide the necessary cascade refuelling. The radar bombing attack was made from ten thousand feet and achieved a cut of the runway, as well as other damage to the airfield. Subsequent Vulcan sorties were used against the airfield and on defence suppression missions. Much discussion has ensued about the merits of mounting such an effort to bomb an airfield at such extended ranges. While the damage sustained was limited, the effect of showing Port Stanley to be at risk meant that the Argentinians could not afford to deploy their expensive air assets forward. Additionally, a capability to attack the mainland had been demonstrated, and this undoubtedly meant that a proportion of the Argentinian air defence effort had to be directed towards defending possible mainland targets. Sea Harriers needed to be conserved for their primary role of air defence, and in any event their weapons could not penetrate the runway so effectively.

In future operations, the long-range strategic bomber is a valuable option, given its ability to pose considerable defence problems to an enemy. The merits of its employment for a particular mission must be weighed against the degree of effort necessary in terms of support to mount each sortie. Certainly it will have a much enhanced capability as the new generation of weapons such as the JP233 anti-airfield weapon, or the ALARM defence suppression missile comes in to service. Although the Vulcan will no longer be available to the UK, its replacement, the Tornado, has already demonstrated its long-range ability with air-to-air refuelling support.

Having demonstrated an ability to mount such long range sorties, the harrassment of the ground installations could be continued on a day-to-day basis through the use of Sea Harriers in an offensive role, and through Naval gunfire support. The Sea Harrier was supplemented by the arrival of ten RAF Harrier GR3 aircraft, which have a primary role of air-to-ground offensive missions. Four of these Harriers were deployed by flying them down to the fleet from the United Kingdom to Ascension Island and on for a deck landing at sea. Again the flexibility which VSTOL offers was clearly demonstrated. Having sufficient Harriers to cover both the air defence task and also provide offensive missions meant that air strikes could be continued using 1,000 lb bombs on military targets throughout the islands. Offensive operations during this period were limited at times by the weather conditions.

For the future, multi-role capable VSTOL aircraft have considerable attractions for such contingency operations. Once the air defence screen has been provided, extra sorties can be generated from the remaining aircraft in an offensive role, while preparations continue for the assault.

AIR POWER AND THE LAND BATTLE

The beach-head at San Carlos was established by 3 Commando Brigade on 21 May, and General Menendez surrendered in Port Stanley on 14 June. During that period, the requirements of securing the task force continued unabated. Air operations were also now necessary to support the land battle by providing information, tactical transport, air defence and offensive support.

Providing information for the land forces through air reconnaissance should have been a major contribution to the success of the operation, but it is not clear that this was the case. Assets available included army and naval helicopters as well as the Harrier force. The helicopters were vulnerable

to ground fire, and the Harriers lacked the appropriate support organisation for tasking and processing information. As the Government's study concluded:

> 'Air Reconnaissance. The absence of a dedicated overland air reconnaissance capability was a handicap in the Campaign, and the resulting lack of precise information on enemy dispositions presented an additional hazard to ground forces. We plan to improve our tactical reconnaissance capability.' (11)

For future operations, the advantages of including capable air reconnaissance assets must be anticipated and appropriate provision made. It may be that the new technology sensors will be able to provide an increasing capability for detection and identification, but more importantly the information of whatever quality must be processed quickly enough to be of use to the land force force commander. This is not a new problem with air reconnaissance, the Falklands merely underlined it.

Given the nature of the terrain, the ground forces were heavily dependent on helicopters for mobility. About two hundred helicopters were deployed south, but the loss of the container ship, Atlantic Conveyor, with three Chinooks and six Wessex aboard, meant that there was an acute shortage of tactical transport. A squadron of the anti-submarine warfare Sea Kings were reroled to assist, and as was the case for all rotary wing assets, the sole remaining Chinook flew at unprecedented rates of activity. Based at Port San Carlos, this helicopter had to be operated and maintained without its support equipment which had been lost with the other Chinooks. In 150 flying hours it carried a total of 600 tons of equipment and 2,180 passengers. For future operations, the importance of providing sufficient tactical transport capacity has been underlined. The mobility afforded to land forces by helicopter lift may be crucial.

Offensive support of the land forces, as they moved across the islands, was an important air power task. For the landings at San Carlos, the Harrier GR3s

were armed with cluster bombs, rockets, free fall and retarded 1,000 lb bombs, and 30 mm canon. The assault on Darwin and Goose Green was again supported by Harriers using cluster weapons. Once Goose Green had been recaptured, the Harriers were tasked with attacking the defensive positions around Port Stanley. These were not always easy tasks, as one report from a Harrier pilot who was shot down demonstrates:

> 'The IP was still out in cloud and there was still no sign of the FAC. This time the ALO asked us to attack target two, the second gun, and on the first pass neither of us saw the target at all. By this time I had given up hope of successfully attacking a single gun, probably camouflaged without either FAC control or laser target marking. I therefore elected to go for another company position which we both attacked with CBUs and then climbed out en route for Hermes.' (12)

As the final report stated:

> 'The campaign exposed the limitations of the traditional method of forward air control of close air support operations. In the later stages laser target marking from the ground was used, enabling laser guided bombs to make direct hits on their targets.' (13)

For future operations, the importance of target identification, and communication of that information to attacking pilots should not be underestimated if maximum advantage is to be gained from offensive air support.

THE AIR POWER CONTRIBUTION

As this summary of the air element of the Falklands Conflict has indicated, air power was required to provide transport, air defence, offensive support, tactical and maritime reconnaissance. Where it worked despite the difficulties

of extended lines of communication and deficiencies in support, it contributed greatly to successful land or sea operations. Control of the air was vital at all times, and will be in any future conflict. The continuing security of the Falkland Islands is built around a comprehensive air defence system, coupled with an ability to reinforce rapidly by air through the new strategic airfield which is under construction. The recent direct flight of a Nimrod from Port Stanley to the UK demonstrated this capability.

For nations wishing to retain a worldwide low intensity conflict capability, air resources must be a prime concern. While large aircraft carriers may provide an effective solution to some problems, and small carriers have an important role as demonstrated in the Falklands, geographical considerations make long-range air support, through air-to-air refuelling, the only answer to some contingencies.

1. L. Freedman, 'The War of the Falkland Islands 1982', Foreign Affairs for 82, p 196.

2. Weekly Hansard 1239, col 637.

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USE OF THE B-52

IN AN

Antiterrorist Role

by

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SECTION I

INTRODUCTION

> "The states that practice terrorism or actively support it cannot be allowed to do so without consequence," said a statement recently released by the White House which was drafted by the National Security Council.

This paper views ways in which global-range airpower might be used against terrorism. It does not advocate any particular policy. Rather it supports the proposition that the full range of airpower capabilities should be explored before specific policy is established.

First, it will look at the threat of terrorism and try to better define the terms associated with terrorism. It will consider policy implications and focus on ways that B-52s could be used. Finally, it will close with a few recommendations.

SECTION II

THE THREAT OF TERRORISM

The international environment of the last quarter century suffers from a major blight -- terrorism. Although acts of terrorism were not altogether uncommon events in centuries past, contemporary terrorism has taken on new meaning in terms of the frequency; the number and variety of groups involved; and the toll taken in deaths, injuries, and damage to property.

Practically every day, the newspaper brings reports of terrorist atrocities to our doorsteps, and the television screen vividly displays terrorism's grisly effects in our living rooms. Modern satellite communications allow us to witness firsthand the sinister threat that terrorism represents.

Acts of terror are a pervasive element of low intensity conflict. The employment of terror tactics is advocated by insurgent strategists and guerrilla warfare theorists. Civilian government and military leaders recognize that combating terrorism is an essential step toward effectively neutralizing insurgent and guerrilla groups.

According to Dr. Ariel Meriari of the Jaffee Center for Strategic Studies, "The prime feature of terrorism is its

desire to draw public attention to grievances, real or imagined, by engaging in spectacular acts of violence and mayhem, upsetting public order, generating fear, abusing innocent victims and disrupting the normal flow of commercial and social activity."

Terrorism is not mindless violence. It may be characterized as a detailed strategy which uses violence to create a psychological reaction. (1:18) Department of Defense (DOD) Directive 2000.12 defines terrorism as "The unlawful use or threatened use of force or violence by a revolutionary organization against individuals or property, with the intention of coercing or intimidating governments or societies, often for political or ideological purposes."

The Foreign Intelligence Surveillance Act of 1978 defines "international terrorism" as activities that involve violent acts or acts dangerous to human life that are a violation of the criminal laws of the United States or any State, or that would be a criminal violation if committed within the jurisdiction of the United States or any State; appear to be intended (a) to intimidate or coerce a civilian population; (b) to influence the policy of a government by intimidation or coercion; or (c) to affect the conduct of a government by assassination or kidnapping; and (d) occur totally outside the United States, or transcend national boundaries in terms of the means by which they are

accomplished, the persons they appear to coerce or intimidate, or the locale in which their perpetrators operate or seek asylum. (2:7-F)

Before proceeding, two terms, antiterrorism and counterterrorism, need to be defined in order to put this paper in perspective. The title uses the term, antiterrorism, which according to DOD Directive 2000.12 means "Defensive measures used by DOD to reduce the vulnerability of DOD personnel, their dependents, facilities, and equipment to terrorists acts." Actually the term counterterrorism would be more appropriate because it means "offensive measures taken to respond to a terrorist act, including the gathering of information and threat analysis in support of those measures." The NATO community does not discriminate between the terms and just uses antiterrorism. (Even the term counterterrorism as defined does not cover the gamut since it suggests action taken in response to a terrorist act and does not necessarily cover a seeming shift in policy toward possible preemptive acts. This idea will be expanded in the next section.)

SECTION III

CHANGING POLICY TOWARD TERRORISM

Many Americans are upset over the increasing threat of international terrorism, and the present Administration is concerned. Excerpts sent by President Reagan to Congress on 26 April 1984, state, "In 1983 more than 250 American citizens were killed in terrorist acts, the largest number in any year of record . . .. During the past decade alone,. . . American citizens have been the victims of more than 2,500 terrorist incidents. . . . In recent years, a very worrisome and alarming new kind of terrorism has developed: the direct use of instruments of terror by foreign states . . .. Also disturbing is state-provided training, financing and logistical support to terrorists and terrorist groups. These activities are an extremely serious and growing source of danger to us, our friends and allies, and are a severe challenge to America's foreign policy . . . . We must make it clear to any country that is tempted to use violence to undermine democratic governments, destabilize our friends, thwart efforts to promote democratic governments, or disrupt our lives that it has nothing to gain and much to lose." (2) Secretary of State Schultz agrees with President Reagan. He thinks terrorism is a form of low-level warfare directed

primarily at Western nations and institutions and their friends and allies. Furthermore, he warned that democratic countries must be ready to take preventive action and preempt terrorists from striking. (3:1)

Some people have called the terrorist attack against the American embassy annex in Beirut as much an act of war as was the bombing of Pearl Harbor. (4) Speaking in New York on 26 October 1984, Secretary of State Schultz said that the United States should stop equivocating and adopt a policy of using military force against terrorist groups. (9:1) However, an administration official has quoted Pentagon official's as saying that one has to proceed with caution and with a lot of thought about unintended consequences from the use of force. (10:1)

An expert on terrorism, Robert Kupperman of Georgetown University, warned that the United States might well be inviting a new and far more dangerous wave of terrorism to its own shores if it adopts Schultz's ideas. (8) But Morton Kondracke writing for United Feature Syndicate, summarized, "It's certainly true that the United States has got to be prepared to wage war on terrorism; after all, terrorists are waging war on us. . . If and when we employ military action, we've got to do it right. We've got to hit guilty targets, and we've got to hit them hard." (7:33) Still policy matters must be considered.

So the change in policy seems to be that terrorism is no longer viewed primarily as criminal activity that would exclusively be a security and law enforcement problem. The use of terrorism by sovereign states, either directly or indirectly by proxy, on an international scale, adds a new dimension. The National Security Decision Directive 138, which called for preemptive and pro-active measures against terrorism, seems to establish a broad charter for "taking the offensive" against international terrorism. (5:33) There seems to be a decision in principle to use force. This would provide authorization for changes in policy-making and planning.

"'I don't think the administration has followed through with a counterterrorism policy to match its words,' says Samuel T. Francis, a terrorist expert who works for conservative Republican Senator John East of North Carolina . . .. The biggest gap between the administration's rhetoric and its performance has been in areas of deterrence and retaliation." (5:33)

One way to fill this gap is through the use of global-range airpower.

SECTION IV

USE OF GLOBAL-RANGE AIRPOWER

Global-range platforms, such as B-52s, offer distinct advantages to the United States in conducting highly effective, low-profile actions against terrorists. Capable of being air refueled, B-52s can go virtually anywhere at anytime from bases in the continental United States. This feature makes them much more independent of allied and third world political climates compared to our other forces.

Although old, the B-52 is an impressive aircraft. The B-52G has an unrefueled range of 6500 nautical miles, which increases greatly with tanker support. It cruises at 440 knots true airspeed at altitude, and can carry approximately 26,000 pounds of armaments. It can be fitted with a wide variety of munitions. It has terrain avoidance radar making it capable of flying at very low altitudes, and it has an impressive electronic countermeasures (ECM) suite to help protect it from enemy defenses. (11)

B-52s demonstrated their remarkable range, timing, and accuracy during a joint training exercise called Bright Star 82. Six B-52H bombers took off from their home bases in North Dakota and flew 7,500 miles hitting targets in Egypt within four seconds of preplanned times. Each bomber

released twenty-seven 500-pound bombs precisely on target and completed its mission by travelling another 7,500 miles back to North Dakota. (6:1)

As further testimony to the B-52's responsiveness, a Boeing study noted that the B-52 on conventional alert in the United States could be engaged in conflict within a day, while other deploying ground, air, or sea forces would require a minimum of three to five days. (6:54) No other national asset can respond anywhere on the globe within 24 hours and carry its equivalent firepower.

During a recent crisis in the Middle East, the Navy was asked to stand by in the Mediterranean because of heightened concern about possible terrorist attacks against Americans in the area. The battle group was led by the giant nuclear-powered aircraft carrier Eisenhower, which carried a contingent of 85 war planes and 5000 men and required support by at least a half-dozen escort ships. It was a very potent force, but it is also required an enormous commitment of manpower and materiel. In this case, it might be argued that a single aircraft such as the B-52 could have served the same purpose and would have been significantly cheaper while still being effective.

Sometimes a show of force is appropriate. Two U.S. Army officers assigned to the United Nations Command, Republic of Korea, were brutally murdered by North Korean

soldiers in the UN Joint Security Area (JSA). The US officers were supervising a poplar tree pruning operation when attacked and killed with axes. This incident, as taken from the 1976 Strategic Air Command (SAC) history, while not a terrorist incident, could be representative of a terrorist type attack. The US response in this case, included the use of long-range airpower. B-52s flew missions out of Guam into South Korea as a show of force and resolve.

During the Vietnam Conflict, North Vietnamese irregulars many times used terrorist type tactics. For the US, this was a limited war scenario, however B-52s were used to attack base camps and to isolate guerrilla forces making it difficult for these terrorist-type forces to find sanctuary. In fact, the most feared attacks, according to captured North Vietnamese, came from bombers.

A show of force can often be very effective. The US frequently positions ships in strategic locations such as in the Straits of Hormuz. Air cover for these ships, including cells of long-range bombers, would certainly have a psychological impact on would-be terrorists seeking to destroy one or more of these ships.

B-52s can be used in psychological operations (psyop). During the Falkland crisis, the British developed some very effective leaflets, but they did not have the airpower assets to deliver them. B-52s can deliver psyop-type leaflets just about anywhere in the world. Leaflets can

be delivered at low level or from high level in delayed release canisters such as the M129 leaflet bomb.

Terrorists want to create a decisive psychological impact. They want the targeted population to feel that it is helpless in responding to their actions. B-52s can counter this through clear demonstrations of resolve. Imagine the effect of a formation of three B-52s flying at 500 feet dropping bombs or leaflets over the enemy's main operating locations! This could have a significant anti-terrorist effect.

Use of antiterrorist airpower has been employed by the Israelis. "The Israeli record involves hundreds of counterstrikes after terrorist attacks over the years." Brian Jenkins, of the Rand Corporation and a top US government consultant on terrorism observed "the policy appears to have had some success in Egypt, Jordan and Syria, which have forbidden terrorists from operating from their territory."

Such acts, however, may backfire and result in negative publicity worldwide. "Reprisals can result in disasters. Israeli jets trying to destroy a Palestinian guerrilla headquarters last year inadvertently struck an Arab school bus. Many children were injured. Some may have been killed," Jenkins noted. Furthermore there is no assurance that such reprisals will achieve the desired objective. (8)

Israel uses tactical assets because of the shorter range

to the targets. The US would have to depend on longer-range assets in many situations. The B-52 could be effectivly used in this role.

If the target is known and can be easily isolated, a B-52 could strike it using precision bombing without inflicting unnecessary collateral damage. Finding the appropriate target is the hard part. Extremely accurate intelligence is needed. A known terrorist base camp in a remote location would be an ideal target for a B-52.

In a speculative sense, the Airborne Warning and Control System (AWACS) has been used very effectively in periods of international crisis. Its mere presence had significant impact. The B-52, equipped with similar sensors and communications equipment, could make an even stronger statement of resolve than the AWACS. If equipped with effective sensors, B52s could use their long loiter time to monitor movement of terrorist groups. This would require funds and training, but it is certainly within the realm of possibilities.

Even more speculatively, a B-52 could have its bomb bay modified to carry multipurpose capsules. These capsules could be built so that commando teams could be transported to an enemy infested region. They could be inserted using HALO (high altitude low opening) tactics or by low level drops. The reason one might choose a B-52 over a cargo

aircraft is because of the its sophisticated ECM package and its proven low altitude evasive capabilities.

Other ideas to ponder might include modifying the B-52 to deliver chemicals possibly stored in some of its fuel cells. If the decision is made to use chemicals, the B-52 could deliver them with a higher probability of success than could a transport aircraft. The chemicals might include a "knock-out agent" that would be effective long enough to allow a team to be dropped in, with appropriate protective equipment, to overcome a group of terrorists.

Back toward the less speculative and certainly more possible are developments in new weaponry. If weapons could be developed that would give accurate, long-range standoff conventional capability, the B-52's ability could be greatly enhanced. With extended range, these weapons could allow a B-52 to safely fire from outside of the enemy's defenses. This could vastly increase the range of options for employing the B-52.

Another possible scenario could involve attacking the terrorist's communications equipment. Terrorists are often dependent upon outside resources for communication relay. It might be possible to use the electronic and communication jamming equipment on board the B-52 to isolate the terrorists from their support. This might be enough to delay or discourage the terrorist from taking action.

These are just some of the possibilities. If conceptual horizons could be broadened to accept the utility of the B-52 in such a role, many more possibilities unfold. In order to be deterred, the terrorist must feel that he is in real danger, and that his adversary is resolved to use any and all resources on hand. The B-52 can function as a visible and highly credible deterrent to terrorism if dedicated to such a role.

SECTION V

RECOMMENDATIONS

On 29 December 1983, The Air Force Chief of Staff directed formation of a task group to conduct a comprehensive review of terrorism as a form of armed conflict and to build a policy framework for reviewing military response requirements and antiterrorism activities. They were to identify deficiencies in the Air Force capability to combat terrorism and recommend solutions. Many of the recommendations from this working group on terrorism should be considered for adoption. Some of them are used as a basis for the recommendations that follow.

Since state sponsored terrorism poses one of the greatest threats to US objectives, acts of terrorism should be defined as hostile acts and be considered within the spectrum of conflict.

To be really effective in countering terrorism, a new national policy which requires an increased role for military operations and close cooperation with other agencies is needed. The policy should support efforts that convey a resolve to use a broad range of options to respond to terrorism, including the use of global-range airpower.

The Air Force organization and its present force structure seem adequate to support such a new policy, but to be really effective, new operational doctrine specifically addressing terrorism should be developed. This can come from the principles of warfighting found in Air Force basic and joint doctrine. Also additional emphasis could be placed on fighting terrorism in the Global Assessment, the Strategy and Policy Assessment, and other applicable documents.

With the above serving as a foundation, it should become increasingly clearer that the B-52 is a viable platform for use in countering terrorism. This is because global-range airpower, especially when coupled with accurate, long-range standoff conventional munitions, can provide an effective, low-profile approach to "taking the offensive" against terrorism. It has inherent abilities now, but with further thought, policy, doctrine, and technical innovations, global-range airpower could become even more potent.

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AIRPOWER IN LOW INTENSITY CONFLICT: ARABIAN CASE STUDY

1945 - 1985

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INTRODUCTION

A study of armed conflict on the Arabian Peninsula since 1945 offers a fascinating and timely look at low intensity conflict, in an area of the world vital to US interests. The purpose of this paper is to survey and explore the nature of conflict on the Arabian Peninsula since the Second World War, and examine the employment of airpower as a tool in the conflicts under study.

The Arabian Peninsula contains a land area nearly half the size of the continental US. Today there are eight independent states on the Peninsula. At the end of 1945, only a few of the peninsula's states were more than general areas of tribal control, recognized by tradition and/or the continual interaction of the tribes and tribal leaders. Formal boundaries, even those of established states, were often undefined and until the discovery of oil were not viewed as particularly important. Competition for grazing lands and water was a source of conflict.

The area remains a paradox in 1984. Once areas of relative poverty, the oil-blessed states and sheikhdoms now enjoy some of the highest per capita incomes in the world. Some Peninsula states, without oil, still have living conditions characterized

by poor medical care, high illiteracy, and life styles little changed for centuries. This contrast is all the more intense due to the immediate proximity of oil-rich and oil-poor states.

Conflicts at the low intensity end of the conflict scale often erupt when traditional societies are faced with intense forces for modernization. The dramatic mid-1970s increase in oil prices and transfer of wealth to oil-rich peninsula states resulted in tremendous social and economic upheaval. An infrastructure development, which Europe assimilated in centuries, was compressed into a decade in some peninsula states. This social, economic and political change, taken against the very traditional societal backdrop, created conditions conducive to conflict, in addition to that conflict already in the common experience of the region.

METHODOLOGY AND ORGANIZATION

The data for this study are drawn entirely from open sources, especially the chronologies of the Middle East Institute's Middle East Journal, and written primary and secondary accounts of conflicts in Arabia. The study is in five parts. Following this introduction is a descriptive chronology of armed conflict on the Arabian Peninsula from 1945 to the present, to show the continuum of conflict and its causes. After the chronology is an analysis of the changing nature of conflict in Arabia, and

the implications for US security interests. Finally is an assessment of the role of airpower in low intensity conflict in Arabia.

CONFLICT CHRONOLOGY

Conflict at the low intensity level, whether motivated by intraregional or extraregional forces, has been a hallmark of the Arabian political scene. Conflict was traditionally motivated by tribal competition, or resulted from interaction with extraregional forces, rather than more conventional state versus state territorial or ideological competition. This appears to have been modified significantly in the decades since the Second World War.

Tribal conflict might be manifested in incidents as minor and frequent as the "camel raiding" of neighboring tribes, which was typically characterized by little bloodshed and was rather ritualistic in its accomplishment, or in raids on caravans, settlements and oases.[1] Conflict of tribal origins might also be as significant as coalitions of families united under one banner, in pursuit of hegemony over a given area for political, economic or religious reasons, or some combination thereof. Abd al Aziz Ibn Saud, in concert with descendants of religious leader Mohammed Ibn Abd al Wahhab, unified successive areas of the Arabian Peninsula through alliance, negotiation and conquest

to form the greatest of the peninsula's states, the Kingdom of Saudi Arabia. The implement he used to accomplish this feat was an amalgam of tribal warriors, called the Ikhwan ("brotherhood"), who stood forth to reclaim the land for a more puritannical interpretation of Islam.

Political forces of extraregional origin also have motivated conflict on the peninsula. At the opening of the Twentieth Century, the Ottoman Turks were ensconced in western Arabia. Tribal insurrection against the Ottoman presence and the defeat of Turkey in WWI, drove the Ottoman administration from the peninsula. The British assisted the insurgent tribes in their task and Col T.E. Lawrence (of Arabia) achieved fame in the process. Both the British and the Turks employed airpower in the conflict, in what was probably the first military use of aviation on the Arabian Peninsula. Lawrence employed aircraft to maintain contact with his highly mobile and far flung tribal irregulars, as well as for reconnaisance and courier functions.

By the end of the Second World War, the British had many decades of experience on the periphery of the Arabian Peninsula. Arabia was important to Britain because of its proximity to Suez and as a convenient point enroute to India. Aden, in South Yemen, became a major coaling point for the Royal Navy and one of the most important military bases in the Empire. Arabia became all the more important when oil was discovered. Britain played an

important role in the general security of the peninsula because of these factors; a role which did not begin to diminish until the independence of India in 1947. Until it became a separate colony, Aden was actually administered by the British, from and as a part of India. Britain assisted with the administration of tribal affairs throughout south Arabia and the Gulf, but did not directly rule any interior area of the peninsula. On the Gulf, many of the sheikhdoms and Oman established agreements with Great Britain whereby Britain was authorized to conduct their external political affairs; in return Great Britain protected them from seaborne aggression. Agreements in the 1930s established landing facilities for the Royal Air Force and British civil aviation in several of the Gulf sheikhdoms, in addition to facilities already available at Aden.[2]

Great Britain also assisted with the mediation of intertribal disputes, applying military force where necessary to support friendly sheikhs and British interests, often with the RAF employed. Unfortunately, in some cases British presence and actions also promoted conflict. British activites in Muscat and Oman -- especially active British discouragement of such traditional local activities as slavery and arms trafficking -- caused friction between the Sultan, on the one hand, and the Imam of Oman and interior tribes on the other. This ultimately had to be resolved by force of arms.

Tribalism, Instability and Insurgency: 1945 - 1975

Politically motivated violence in the immediate post-war period was characterized by intertribal conflict, which occasionally extended across national boundaries. Most of the major incidents of armed conflict appeared to be confined to southern Arabia and often involved the British, either in the mediation of a dispute or in the application of force to end or discourage further violence. In 1945, the Gulf emirates of Dubai and Abu Dhabi were in arms over territory and tribal violence. The territorial aspect of the dispute was prompted by newly-determined potential for discovery of oil in an area lying between the two. The tribal violence had been going on for some time. The British mediated an end to the violence in 1948, by virtually dictating a border between the two.

Tribal conflict in south Arabia tested British authority and the authority of local rulers supported by Great Britain, from 1947-1949. These incidents became significant enough that the Royal Air Force was employed, with aircraft attacking tribal forts and strongpoints along and across the border between North and South Yemen. In 1948, an attempted coup d' etat in North Yemen led to fierce fighting which lasted three weeks and reportedly left nearly five thousand killed.

During the 1940s, a new source of conflict and tension emerged:

the partition of Palestine and independence of the state of Israel. At the time of the war for independence of Israel there were actually significant numbers of Jews living in the Arabian Peninsula -- especially in south Arabia. Tensions and conflict in Palestine extended into Aden, where violent strikes, riots and protests over the Partition injured Jews and Arabs alike, and was also directed at British authorities. On 3 December 1947, martial law was declared in Aden Colony. Order was not restored for over a month. The first terrorist bomb on record in Aden was exploded. Many were killed in the general violence and mayhem. It was only a beginning. The violence, instability and radical ideologies growing from the struggle in Palestine affect peninsula politics to the present day.

During the decade of the 1950s, intertribal and tribal-state tensions continued as strong motivators of armed conflict. Occasionally the conflicts had religious overtones. There was a major border dispute in one area and a civil war in another. Another Arab-Israeli war, in 1956, brought extended civil strife to British-influenced areas around the periphery of the peninsula.

In 1950, there was tribal violence in North Yemen and continued civil violence in Aden colony. A dispute between Saudi Arabia and the Gulf emirate of Abu Dhabi erupted in 1952, when tribal and military forces from Saudi Arabia occupied a portion of the

Buraimi Oasis (now on the border between the UAE and Oman). The area had been alternately occupied by tribal forebears of Saudi Arabia and Abu Dhabi since the nineteenth century. The dispute became serious only after the prospect of oil in the area became a factor. Forces from Abu Dhabi and Oman, supported by Britain (and the RAF), countered the Saudi move and a military stalemate developed. The oasis continued as a site of tension, with occasional shooting, tribal conflict and terrorism, until the dispute was resolved in October 1955.

The year 1953 was marked by civil strife in Bahrain and Saudi Arabia. Riots in Bahrain over proportional representation of Islamic sects in government and employment, and other civil issues marked tensions which continue today. In Saudi Arabia, strikes at ARAMCO (over wages) resulted in declaration of martial law in the Eastern Province. Tribal dissidence continued in South Yemen, with Britain again employing the Royal Air Force.

There was extensive cross-border tribal conflict in North and South Yemen in 1954 -- again with the RAF employed against tribal strongholds and forts. This violence and the RAF response continued sporadically throughout much of the remainder of the decade. The conflicts occasionally involved contact between regular forces from North and South Yemen.

In 1954, the Sultan of Oman and the Imam of Oman came into open conflict. Relations between the two had never been good, and the Sultan's relationship with Great Britain had been a sore point. As with many conflicts, tribes were the instruments of confrontation. The Imam raised supporting tribes from the interior of Oman to rebellion and to armed conflict with the Sultan's forces. The conflict continued without resolution until 1958, when the Sultan signed an agreement giving the RAF access to airfields at Salalah and Masirah, and gaining for the Sultan's forces additional British security assistance, including the "seconding" of British officers to the Sultan's armed forces. (These events were important to the defeat of a second "liberation front" insurgency during the 1970s.) The conflict ended in 1959 with the renewed British assistance. The Suez Crisis and Arab-Isareli war in 1956 prompted a round of anti-British strikes and civil violence in Bahrain, Kuwait, Qatar, and Aden Colony.

From 1956 through 1958, plots to overthrow existing rulers were uncovered and thwarted in Saudi Arabia (against King Saud) and Bahrain. A coup d'etat was attempted, but defeated, in North Yemen. The next year, 1959, units of the army of North Yemen mutinied in conjunction with tribal dissidence, but the rebellion was contained.

Strikes, riots, and civil violence, with the first calls for

independence, reached such a level in Aden Colony in 1958, that a state of emergency was declared by the colonial administration. The state of emergency was ended temporarily in 1959, but the stage was set for dissident activity that would eventually end British rule in Aden.

The decade of the 1960s was one of the most violent the Peninsula has witnessed. Dissidence in Aden and South Yemen developed into a full-blown "national front" insurgency. Ideological strife in North Yemen became civil war, which also involved Egypt and Saudi Arabia. A "national front" insurgency also ignited in the Dhofar region of Oman. The omnipresent intertribal strife continued throughout the decade, both independent of and in conjunction with the major conflicts just listed.

Elements of the air forces of Great Britain and Egypt were employed extensively throughout the decade. The air forces of Saudi Arabia, Iran, Oman and North Yemen were also combat tested in south and southwest Arabia before the various conflicts were resolved.

Another Arab-Israeli war, in 1967, had a strong impact on peninsular conflicts and events, but actually helped to end the civil war in North Yemen.

Civil War: North Yemen (1962-1970)

In the early 1960s, there was strong Egyptian influence in North Yemen's armed forces, which was only in part due to the presence of Egyptian advisors there. The ideological currents which had been spawned in Egypt by Nasser, and by others elsewhere in the arab world, ran strong among the North Yemen officer corps. Some of these officers patterned a national revolution after that which had carried Nasser to power. Supported by Egypt, this group of officers led a coup d' etat in September 1962, and did succeed in ousting the Imam from his capitol. Egypt immediately recognized the new Republican regime. The matter was far from settled, however, for the Imam survived and his followers, termed Royalists, fought back. They were aided in this resistance by neighboring Saudi Arabia, which provided sanctuary and financial support. The ensuing war greatly exacerbated already poor relations between Egypt and conservative regional monarchs, especially Saudi Arabia's King Faisal.

Egypt quickly rushed troops and aircraft to North Yemen to support the Republicans. The month after the coup, Egyptian aircraft attacked villages in Saudi Arabia which were suspected of harboring Royalist forces. By the end of October 1962, there were perhaps 12,000 Egyptian troops in Yemen. Russian pilots were reportedly flying some combat missions in the Egyptian

aircraft. [3] By January 1963, the number of Egyptian regulars in North Yemen had increased to about 28,000, but observers in North Yemen reported that the Royalists still controlled half of the country.[4] Egyptian and Republican forces launched a major offensive, and the Egyptian Air Force reportedly began using napalm against villages in North Yemen. Airstrikes probed farther inside Saudi Arabia, which prompted a 23 October 1963 letter from US President Kennedy to Saudi Arabia's King Faisal pledging US support for Saudi territorial integrity. US combat aircraft were deployed to Saudi Arabia in a show of force and US resolve.

By January 1964, the Egyptian/Republican offensive had made little headway. Egyptian troops were carrying the heaviest combat load -- and taking heavy casualties. The Egyptians increased the intensity of the air campaign. Reports of the use of lethal gas and napalm (and biological weapons) against Royalist villages emanated from North Yemen. By the fall of 1964, there were close to 60,000 Egyptian troops in North Yemen. When Nasser visited North Yemen, he called the conflict, "my Vietnam."

The conflict continued unabated until an event completely outside the peninsula motivated an end to Egyptian and Saudi participation and support. The dramatic Israeli victory in June 1967 dwarfed the civil war in North Yemen. Nasser and Faisal

embraced one another and closed ranks in the face of this event. By the end of 1967, the Egyptian forces had left North Yemen, with Nasser saying the whole experience had been a miscalculation. Saudi Arabia reduced its support to the Royalists.

The fighting continued for two more years. The Soviets continued to supply weapons to the Republicans and there were reports of Syrian pilots flying airstrikes in North Yemen MIGs. Without the major support of Egypt or Saudi Arabia, the level and intensity of the conflict gradually trailed off and was essentially ended by 1970, with a Republican administration still in power.

Insurgency: South Yemen (1964-1967)

Like the civil war in North Yemen, the struggle for independence in South Yemen was prompted by radical ideological forces sweeping through the arab world in the wake of both the Second World War and the independence of Israel. In some instances these forces had pronounced Marxist leanings. The insurgency in South Yemen was characterized both by tribal resistance to central authority, beginning in October 1964, and by an intensive campaign of terror and disruptive civil violence in Aden. Though a very small minority of the Aden Colony was responsible for the terror and violence, the impact was strongly

felt. After a bitter four year struggle and complex political turmoil, Great Britain granted independence in 1967.

The fighting continued for several years after independence between the new regime and tribal forces in South Yemen, which were not ready to submit to this new central authority. In this resistance, they had the support of Saudi Arabia. Factional strife between rival elements of the new government also continued. It was several years before the present Marxist, pro-Soviet government finally secured its internal power base throughout South Yemen and effectively eliminated resistance in the interior.

Several aspects of the struggle for independence and the new regime in South Yemen are worth noting. The movement was, and remains, unusual in that the leadership neither grew from the military, nor derived its force from a single personality --both characteristics common to other Middle East revolutions in post-WWII. The movement was also unique in that it attempted a transformation of the whole society, from top to bottom, based on Marx' concepts of scientific socialism. In this, some success has been achieved. In 1984, South Yemen --the People's Democratic Republic of Yemen -- remains the only avowed Marxist state in the peninsula. Its ties to the Soviet Union are strong.

Insurgency: Oman (1963-1975)

Oman's violent encounter with a protracted insurgency lasted from 1963 through 1975 (when it was declared ended by the government, though incidents continued for some years beyond that). Like those who carried out the struggle for independence in Aden/South Yemen, the insurgents in Oman were products of the radicalization of arab polities which occured in the post-war period, and were motivated by a desire to drive the Sultan and British influence from the Peninsula.

The seat of rebellion was Dhofar province in western Oman. In the early years, the rebellion was difficult to differentiate from much of the typical dissident tribal activity already discussed at length in this study . The insurgents were assisted by many factors, often associated with the conduct of successful insurgencies in the post-war era. They operated close to base areas which were physically remote from the seat of power (Muscat), in an area with little traditional government control, yet near a population base from which to draw support. Base areas were established along a national boundary across which, after 1967, there was a government sympathetic to and actively supporting the insurgents (South Yemen). Arms supplied by several different communist states could flow freely to the insurgents across this border and insurgent propaganda could reach the general population from transmitters in Aden. The

insurgents were also aided in their task by the Sultan himself, whose eccentricities had not endeared him to either his people or to his moderate regional neighbors.

The Sultan had, however, signed a 1958 agreement with Great Britain which gave the RAF use of the airfields at Salalah and facilities at Masirah, and provided for British security assistance and training of Omani forces (and the seconding of British serving officers to lead the Omani forces). Though the agreement was motivated by the requirement to defeat rebel tribes and a defiant Imam (1954-1959), it established the mechanisms for expanded British support in this crisis. When this factor was combined with the 1964 discovery of petroleum in commerical quantities, which enabled large increases in defense spending without taxing the population, the insurgency was thrown two strikes almost from the outset. The insurgents were also hindered by their own inexperience and an initial apathy toward the movement by the traditional populace, which made it generally unreceptive to radical ideologies/movements.

Some analysts have divided the insurgency into four phases.[5] The first phase ('63-'67) was one of insurgent initiative at a low level -- characterized by avoidance of direct contact with government security forces on other than the most favorable terms. The second phase ('67-'70) was marked by consolidation

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had attained independence in 1961).

The World is Watching: 1973-1985

Political and economic realities in the Peninsula were altered dramatically in 1973, however, by yet another Arab-Israeli war. As a result of the 1973 Arab-Israeli conflict, the attendant oil embargo and the dramatic increase in the price of oil, the largest international transfer of wealth in history commenced. Along with the wealth flowed a host of "modernizing" forces, such as urbanization, and radical ideologies, descending with incredible force upon the traditional societies of Arabia. The new wealth also brought the ability to acquire large numbers of expensive, sophisticated and powerful weapon systems. The sudden realization by the international community of the importance of Gulf oil prompted close attention to Gulf affairs by large and powerful extraregional polities. Low intensity conflict in Arabia had suddenly assumed international implications. The new weapon systems seemed to ensure that future conflict was likely to be far more deadly.

As the decade of the 1970s opened, the insurgency in Dhofar was approaching its most intense point. South Yemen, now independent for three years was still trying to consolidate central authority of the tribes in the interior of the country, especially over those which had formerly supported the British

of support among the population of Dhofar and establishment of a counter-government administration in Dhofar. The third phase ('70-'73) was highlighted by pitched conventional battles against government security forces, which began to spread throughout Oman and included attacks on cities. Determination and good intelligence on the part of the British supported government forces, and political events within Oman turned the tide for the government. The attacks against the cities were stopped by strong defenses, which the insurgents had not yet the power to overcome. Good intelligence produced a remarkable coup when, at one stroke, virtually all of the insurgent leaders were captured at once. Finally, the insurgency was dealt a severe blow when Sultan Said was deposed by his young and very capable son Qaboos, in a bloodless coup. In the fourth, and apparently final phase ('73-'75), the battered insurgents lost the overt support of South Yemen (brought on by internal political and economic problems in Aden and by the need for better relations with powerful regional neighbors such as Saudi Arabia).

The 1970s was a watershed in Arabian Peninsula security affairs. With the loss of its colonies in India and Aden, the British no longer needed, nor could afford, their security involvement in Arabia and the Gulf. Britain announced, in 1968, its decision to withdraw from Arabian security matters by the end of 1971. This led to the formal establishment of several independent states in the Gulf in 1971 (Bahrain, Qatar, and the UAE; Kuwait

administration. An active and not insignificant resistance by these elements continued along South Yemen's borders with North Yemen and Saudi Arabia -- there were repeated reports and accusations of active Saudi support for the dissident tribes and other disaffected elements. Consolidation of power by the new government in South Yemen was also hindered by factional in-fighting among the leaders, as Marxist pro-Sino and pro-Soviet and non-Marxist arab national elements struggled for control of the government. This in-fighting became violent in 1970, 1971 and 1975.

Tribal concerns still continued to motivate conflict in other parts of Arabia, but the number of incidents greatly diminished. There was tribal violence between the Emirates of Sharjah and Fujayrah, within the newly independent United Arab Emirates (UAE) in the early 1970s. The influx of oil money to the peninsula, however, seems to mark a constriction point for tribal concerns as motivators of political violence on the peninsula. This may have been caused by transformation of the society by external forces, including improved transportation and communication throughout the region, or in the case of many in the oil-rich states, by a certain knowledge that those who did not hang together would hang separately, in the new political environment.

Terrorism, as a tool of protest and dissident activity, however,

spread over the whole of the Peninsula during the 1970s. There were significant acts of terror, not in conjunction with pre-existing insurgencies, in Kuwait (1971, 1972, 1977, 1978, 1979), North Yemen (1973, 1978), Saudi Arabia (1977, 1979), UAE (1977, 1978), and Oman (1978). Often the motivation for many of these incidents was rooted in events in Israel/Palestine. Most troubling to many observers were the incidents in Saudi Arabia, which had been viewed as a relative bastion of stability and tradition. The first incident was a fire on an oil pipeline in 1977, thought to have been caused by sabotage; the second was an attack on the Grand Mosque in Mecca, in 1979, by elements of a tribal/religous dissident group.

Coup attempts against established regimes and assassinations of heads of states increased markedly during the 1970s. There were attempted or successful incidents in this category in North Yemen (1975, 1976, 1977, 1978), South Yemen (1971, 1978), Oman (1970 -- Sultan Qaboos deposed his father), and Saudi Arabia (1975 -- King Faisal assassinated by his nephew).

Border conflicts of non-tribal origin also escalated during the 1970s. Territorial incidents erupted between Iraq and Kuwait (1973, 1974 -- border post incidents), Oman and South Yemen (1973-1976 -- still remnant of the insurgency in Dhofar), Saudi Arabia and Kuwait (1977 -- over two islands which Saudi Arabia ultimately occupied, without protest by Kuwait), Iran and

Bahrain/UAE (over Iran's occupation of islands in the Gulf), and South Yemen and North Yemen (1978,1979 -- reflections of a growing national front insurgency in southern North Yemen, allegedly supported by South Yemen).

One of the most significant events impacting on Arabian security affairs was the fall of the Shah of Iran. The establishment of an Iranian islamic republic and the ensuing war between Iran and Iraq threatened to draw the entire region into a morass of terror, coup and conflict.

In addition to the Iran-Iraq war, a South Yemen-supported insurgency in the southern part of North Yemen was of concern to regional states. This also was of such concern to US policymakers that the Carter administration, in concert with Saudi Arabia, rushed additional weapons and security assistance to North Yemen. Fighting was reportedly heavy in 1982. The government of North Yemen, supported by US, Saudi (and Russian) security assistance has apparently been successful in turning back this threat, for the time being.

Incidents of terror continued in many peninsula states in the 1980s, and an attempt to overthrow the government of Bahrain (reportedly Iranian supported) was thwarted. Motivations for the terror was often shown to be related to either unresolved issues connected with the Arab-Israeli dispute, the Iran-Iraq

war, or traced to radical regimes of local (Iran) or extraregional origin (Libya).

World concern was drawn to the Iran-Iraq war by Iraqi and Iranian attacks on commercial shipping in the Gulf. After a number of such attacks, Royal Saudi Air Force aircraft intercepted and downed an Iranian aircraft which was said to be approaching a commercial shipping target.

One apparently state-supported act of terrorism prompted a US and allied response with regular military forces. The incident was the mining of the Red Sea. US and Western naval and air units responded, in cooperation with the forces of other nations in the region, by conducting a mine hunting/clearing operation that returned the sea lanes to normal.

THE CHANGING NATURE OF CONFLICT IN ARABIA

The frequency and pervasiveness of low intensity conflict on the Arabian Peninsula may come as a surprise to many readers. In fact, from 1945 to the present, there have been no less than five thousand separate incidents of politically motivated violence. These include border conflicts, assassinations, attempted and successful coups d' etat, terrorist bombings, and violent incidents associated with the various, more intensive conflicts outlined in this study. The tally of these incidents was culled from open source, English language chronologies and publications. How many more incidents never found their way into the Western press?

From this morass of violence, some discernable trends do emerge which define the changing nature of conflict on the peninsula. For centuries, tribal politics, often with economic or religious overtones, were the motivators of conflict. These factors remained very strong when forces originating outside the peninsula also intruded into the political milieu. Thus most conflicts were sparked by tribe-tribe or tribe-state interactions, rather than state-state interactions.

This situation began to change after the Second World War. Radical ideological forces swept through the entire arab world in the wake of that war, the aftermath of which also was

accompanied by the breakup of empires, and the establishment of the state of Israel. These ideological forces brought about the demise of many of the region's conservative monarchies. They played a significant role in all of the major conflicts occurring on the peninsula after 1945: the civil war in North Yemen, the insurgency in South Yemen, and the insurgency in Dhofar. They continue to contribute to regional instability today.

There was a dramatic drop in the incidence of tribally motivated violence after the mid-1970s, coinciding with the arab oil embargo. The reduction in tribal violence occurred simultaneously with the development of stronger central polities, transportation and communications infrastructures, urbanization and other modernizing forces. The oil embargo also cast the peninsula into the world spotlight. Peninsula conflict suddenly assumed far more serious implications for world security; a fact likely to embroil extrapeninsular forces in any future low intensity conflict.

The peninsula still contains a number of undelineated boundaries. For millenia this was of little consequence to the inhabitants of the peninsula. The discovery of oil, and potential for the further discovery of oil, injected a source of conflict into the peninsula. Border disputes involving, at one time or another, Saudi Arabia, Oman, the UAE (and before independence the various Gulf emirates), and

Kuwait all were prompted by this factor. Some of these disputes also have involved Iraq and Iran in peninsula affairs. The potential for further conflict over territorial limits is still present.

Undoubtedly the most troublesome present sources of intraregional low intensity conflict and instability emanate from outside the peninsula. Foremost among these are the Arab-Israeli conflict, the Iran-Iraq war, and the activities of radical states -- often, but not always, Soviet-supported. Premier among the latter are Iran and Libya. The legacy of all of these is terror and political turmoil. Unfortunately, the immediate future is likely to be marked by a continuation of the patterns of conflict emerging since the mid-1970s. This will be the challenge for the peninsula states, and for US interests in Arabia.

Airpower in Arabian Low Intensity Conflict

Two facts should be apparent to the reader. The first is that conflict on the Arabian Peninsula has occurred with far more frequency than is often recognized. The second is that airpower has been employed frequently in those conflicts. It remains to explore the nature of employment of that airpower and extract what lessons and trends may become apparent during the analysis.

In Arabia since 1945, airpower has been employed as an instrument of state control over dissident elements. It has been employed in reprisal for attacks upon national interests. It has been employed to stop rebellions, and ruthlessly to overcome opposition and an opponent's morale in civil war. It has been employed to promote terror, to hinder economic interests, to exert pressure, to deter conflict, to counter terror, and as a show of force. It has been employed with foresight and caution; in close cooperation with political authorities; and indiscriminately against civilian targets. It has been used to promote healing and to bring relief to remote areas.

The difference between the manner in which airpower is employed to counter low intensity threats, vice conventional conflict, is not merely one of intensity of application, but of scope,

method, and technique. A review of the experiences of several nations in employing airpower on the peninsula, and the results achieved should be instructive in defining this point.

The majority of incidents involving employment of airpower in Arabia from 1945 through 1985 involved the Royal Air Force. The RAF frequently was employed in either control or counter-insurgency roles.

Between the world wars, the British learned through experience that the creative application of airpower could make an effective and more economical instrument for maintaining order; an instrument with distinct advantages over traditional options. The traditional British response to an internal challenge to colonial authority, prior to WWI, was to raise an expedition of ground forces to destroy or punish the recalcitrants or occupy their land. This response was often costly, both in terms of financial resources and troops expended, and often took a very long time in the accomplishment.

In the 1920s, in British Somaliland, an experiment with the Royal Air Force revealed that aviation could assist ground units through observation of enemy movements, by attacking rebel strongpoints and forts, and in some instances by driving the

rebels toward friendly units. It was quickly learned that the combination of ground and air assets working in concert with one another accomplished the mission in much less time and at far less cost than ground forces alone, and actually permitted the significant reduction in ground forces committed to maintain order in a region. So successful was the experiment that RAF assests were assigned to Iraq to assist in firmly establishing the authority of King Feisal, against many tribal factions unwilling to submit to central authority. In 1921, all operations in Iraq, by both air and ground forces, were actually under control of an RAF commander.

These operations laid the groundwork for creation of a doctrine for employment of British airpower in conflicts located in colonial or developing areas. These concepts were employed successfully south Arabia from the 1930s through the 1960s, and also in Oman and the Gulf. The British termed their use of airpower in this manner "air control."[6]

Two principles emerged which were at the heart of the British approach to employment of aircraft in low intensity conflict in Arabia. The first was that the political authority was supreme and the military was to act as an efficient subordinate arm of political authority. The second was one of economy of effort. There would be miniumum violence used in employment of the military arm, and it would be employed in conjunction with good

intelligence.

The process of employment of the RAF in this context depended on two factors: (1) Capable command, control, communications,and intelligence (C3I); and (2) Detailed knowledge and understanding of the land and people in which the operations were to be conducted. The latter requirement applied both to civilian political authorities, and to military officers --especially intelligence officers -- assigned to the area of operations. These requirements enabled the military response to be carefully tailored, based on an understanding of the specific issues and the likely reaction of the opponent. The intelligence had to be good enough to identify the specific opposition group, so that innocents would not be hurt. It had to be good enough to specify when, where, and how much force should be employed. It had to be good enough to catch a problem early, so that corrective action could take effect before a minor problem turned into a major one.

These were carried out in conjunction with the two major principles noted earlier: (1) The military instrument was fully subordinated to the civilian political/diplomatic authority, but the two must work with a single mind and a clear focus on the final desired political objective; (2) All military action would be limited to the minimum actually required to address the specific problem at hands -- casualties on both sides would be

kept to a minimum. To support both of these principles, military action was accompanied by an information campaign to explain to bystander and belligerent alike exactly why the punative action was being take and under what circumstances the activity would cease. Psychological warfare operations were frequently undertaken by air assets. Every attempt was made to keep lines of communication with the belligerent open, to achieve the desired political result. Finally, when a crisis or action was ended, RAF aircraft were employed immediately in assistance roles, such as the delivery of medical care or supplies to remote areas, so that the aircraft were not associated exclusively with retribution.

While the British experience with the employment of airpower in low intensity conflicts in south Arabia was successful for many years, it could not be effectively employed against the painful urban violence which preceeded, and speeded, the independence of South Yemen. One analyst has also suggested that a change in the British attitudes toward the concept of air control also may have reduced its effectiveness in the interior: "air control and the bombing of villages, although long proved to be the best deterrent, were felt to be out of touch with the progressive trends of the age and there was reluctance to employ them, while Aden now swarmed with army officers anxious to win their spurs and to justify their existence at a time when defence cuts were in the air."[7]

The British air control experience was not without some lessons for today's strategists, however. As Lt Col David Dean, USAF, noted in his excellent article on the subject:

> "Perhaps the most important lesson we can extract ... is that air power can be shaped in creative ways for effective political results. The methods used by the British to achieve simple solutions were not all that simple ... It took a very sophisticated combination of superb intelligence, communications, and psychological warfare coupled with a judicious application of firepower to achieve the desired outcome .... Technology, of course, played a key role .... Modern technology may give today's air power some of the same characteristics .... It behooves us in the Air Force to consider seriously the capabilities and doctrine relative to small wars ...8

The Royal Air Force and elite British units (Special Air Service) did play a role in defeating the insurgency in Oman. The RAF continues to contribute to Oman's security through assignment of British serving officers to the Sultan of Oman Air Force, and through an active and effective security assistance relationship. 439

Information is less readily available about Egyptian involvement in the peninsula. Elements of the Egyptian Air Force were employed in support of the Republican forces, against Royalist forces, during the civil war in North Yemen in the mid-1960s. From available accounts, the effort was not a very effective one. Their most visible efforts were against Royalist base areas and villages. Employment became all the more visible by frequent attacks across North Yemen's border with Saudi Arabia and South Yemen. Since the Royalists were supported by both Saudi Arabia and elements inside South Yemen, and the Royalists used the borders for sanctuary, the Egyptian Air Force attacked villages inside Saudi Arabia and South Yemen which they suspected of harboring the enemy. To increase the impact of the air campaign, Egypt began using first napalm, then lethal poison gas weapons in aerial attacks against villages.

The Egyptians were handicapped by several factors. First, they faced a dual threat in that they were heavily committed in Yemen, yet faced armed conflict with Israel -- which did in fact materialize in 1967. That conflict effectively ended Egypt's participation in the civil war in North Yemen (and destroyed much of the Egyptian Air Force). The Egyptians were also handicapped by underdevelopment in one area crucial to success

of British air doctrines: effective command, control, communications, and intelligence. Always crucial to the employment of airpower in conflict, C3I must be all the more sophisticated in a low intensity environment. Deficiencies in Egyptian armed forces C3I became readily apparent during the Six Day War.

While events of 1967 led to a rapprochement between Egypt's President Nasser and Saudi Arabia's King Faisal, and to the withdrawal of Egyptian forces from North Yemen and diminishment of Saudi support for Royalists, the civil war did not end in 1967. The Republican air force, equipped with Soviet aircraft, continued attacks on Royalist strongholds and villages in North Yemen until the conflict faded away in 1970.

US airpower involvement in the Arabian Peninsula began during the Second World War with the establishment of a civilian aviation mission at the Dhahran airbase in Saudi Arabia. This was expanded, under the Truman Doctrine, to include a US Military Training Mission (USMTM) to the Kingdom . A major thrust of the USMTM effort was, and is, to promote the effectiveness of the Royal Saudi Air Force. This security assistance relationship with Saudi Arabia has been important to the occasional indirect involvement of US airpower in crises and low intensity conflict on the peninsula. This was true in 1979 when a South Yemen-supported insurgency in North Yemen prompted

an enhanced US security assistance program to North Yemen. Increasing tensions in the Gulf and the fall of the Shah prompted the sale of F-15 fighters to Saudi Arabia. The Iran-Iraq war, starting 22 September 1980, prompted the temporary deployment of a squadron of USAF F-15s, in a mobility demonstration, and the more permanent deployment of AWACS and tanker aircraft to Saudi Arabia to provide an early warning capability for Saudi Arabia and the Gulf. The growing effectiveness of Saudi airpower was reflected in the downing, by a Saudi F-15, of an Iranian fighter reportedly attacking a commercial shipping target in the Gulf.

US airpower was employed in a different kind of conflict in the summer and fall of 1984. In response to an unidentified party's mining of the Red Sea, US naval aircraft and forces worked in cooperation with the navies of allied host nations in a mine hunting/clearing operation to return the sea lanes to normal. US Navy mine countermeasures helicopters and USAF transport aircraft were actively involved.

Perhaps a great lesson forthcoming from the US and British experience on the peninsula is that the airpower of great states can be applied indirectly through effective and enduring security assistance relationships which enable friendly states, with emerging air forces, to develop the means to defend themselves. It is also clear that the occasional employment of

airpower in an early warning and control role, and in deployment for display of force and political support, can be valuable in deterring conflict.

In this context, support for and encouragement of intraregional security arrangements and organizations -- such as the Gulf Cooperation Council -- must be a priority for US policymakers. By enabling regional states to defend against or deter regional threats, thus reducing intraregional tensions, some of the most likely causes of low intensity conflict are removed. Not incoincidentally, the potential and need for superpower involvement in regional affairs is also reduced.

If deterrence fails, a second lesson from this study is that the application of air power in low intensity conflict calls for innovation in application. The British demonstrated that airpower can be employed with great creativity and sophistication to accomplish limited political objectives. A key element of their success in doing so was a thorough knowledge in the lands, peoples and cultures in which the force was to operate. Air planners today must apply the same creativity to deter or combat the low intensity challenges of today and tomorrow.

NOTES

Thanks to Major Jim Morrell, USAF, who assisted the author in compilation of an extensive chronology of conflict on the peninsula from 1945 to the present. Major Morrell was a student at the Air Command and Staff College at the time.

1. For two excellent and very enjoyable accounts of traditional intertribal conflict, the reader is referred to Charles M. Doughty's 1936 classic, Travels in Arabia Deserta, (Jonathan Cape: London) and Louise E. Sweet's "Camel Raiding of North Arabian Bedouin" in, Peoples and Cultures of the Middle East, (American Museum of Natural History: New York) 1970, pp 265-289.

2. Heard-Bey, Frauke. From Trucial States to United Arab Emirates. Longman Group (London: 1982). One of the best accounts this author has seen on the political evolution of the UAE.

3. Bidwell, Robin. The Two Yemens. Westview Press (Boulder: 1983).

4. ibid.

5. Price, D.L. Oman: Insurgency and Development. (Conflict Studies, No 53.) London: Institute for the Study of Conflict,

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6. For a highly readible treatment of this subject see:

Dean, David J. "Airpower in Small Wars: The British Air Control Experience" Air University Review. Jul-Aug 1983 pp 24-31.

also

Alnwick, Kenneth. "Perspectives on Airpower at the Low Intensity End of the Conflict Spectrum" Air University Review. Mar-Apr 1984 pp 17-28.

7. Bidwell. op cit.

8. Dean. op cit.

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