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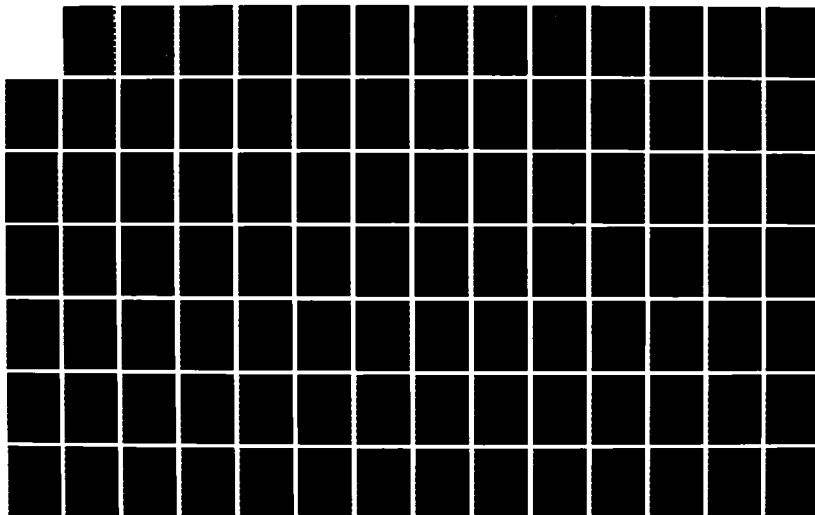
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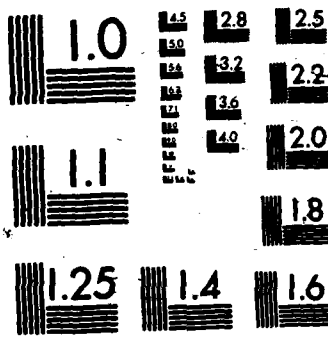
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EQUIPPING THE INFANTRY DIVISION (LIGHT) IN THE 1990s

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE

by

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The study concludes with a recommended list of equipment changes which could make an "order-of-magnitude" difference in the overall performance of the Infantry Division (Light).

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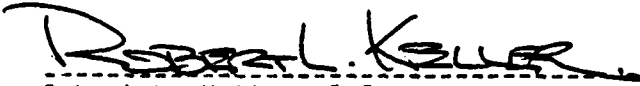
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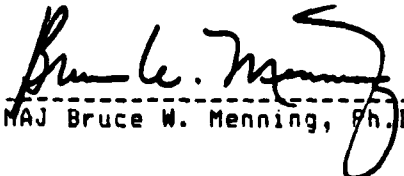
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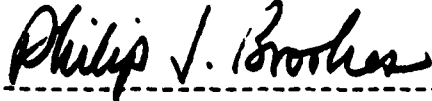
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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

EQUIPPING THE INFANTRY DIVISION (LIGHT) IN THE 1990s; by Major Su Poon Ghee, Singapore Armed Forces, 171 pages.

The U.S. Army Infantry Division (Light) will transform the American approach to the use of force in Third World conflicts during the 1990s. As the mainstay of strategic U.S. conventional reserves, the Infantry Division (Light) was designed to deter and fight low- to mid-intensity wars effectively at a tolerable cost and risk. Theoretically sound, the current Infantry Division (Light) may not be able to accomplish its assigned missions.

This study critically examines the impact of threat, military strategy and its revised missions, and emerging technologies on the equipment requirements for the Infantry Division (Light) in the 1990s. Besides the predictive use of 'expert' judgements from certain definitive works on infantry, the study also uses an historical approach to compare and contrast contemporary infantry equipment requirements. The resulting synthesis provides valuable insights into the future battlefields, as well as the roles and equipment for light infantry forces.

The study concludes with a recommended list of equipment changes which could make an "order-of-magnitude" difference in the overall performance of the Infantry Division (Light).



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Finally, to Carl and Clarita DePaolis, I remain indebted for their friendship and hospitality during those seemingly endless months of research.

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If we could
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to do and how to do :

BACKGROUND

The Army of Excellence
today, and for the next decade
to expedite the incremental
prototype division by 1985.
(Light) made use of off-the-shelf
the same time, sub-divisions
The divisional structure must
sustain new systems capabilities
major systems would have und
replaced by other equipment
technological transition is

significant, improvements in Soviet war-fighting capabilities.

Unlike regular and mechanized infantry divisions, the Infantry Division (Light) is a small, flexible, and versatile fighting force optimized for employment against light forces in a low-to-mid intensity conflict.¹ With regional pre-positioned or air-transportable equipment and manpower mobilization capability adequate to sustain deployments, the Infantry Division (Light) provides the National Command Authority (NCA) with a range of response options for the entire spectrum of potential conflicts. It is also ideal to conduct limited "surgical" strikes to stabilize conflict situations and to protect or evacuate U.S. nationals from a region.² This ability to deploy and extract quickly with a small, strong force would perhaps render unnecessary the later use of a larger, more costly force and possibly preclude direct military confrontation with the Soviet Union. Some of the unique characteristics of the Infantry Division (Light) are:³

- a. The division has a strength of about 10,000 soldiers.
- b. The division is deployable in 400 to 500 aircraft sorties.
- c. The division has a high foxhole strength, approximately 50 percent infantry.
- d. The division has excellent close combat operations training.

e. The division has the ability to accept additional corps combat multipliers through force tailoring.

The concept and design of the Infantry Division (Light) was approved at the Fall 1983 Army Commander's Conference (20-21 October 1983) by General John A. Wickham, Jr., Army Chief of Staff.

In the recent past, the NCA and U.S. Army have looked upon light forces as strategic U.S. reserves ready on short deployment notice to preserve or restore global peace. The 9th Infantry Division, one of the four active infantry divisions in the regular Army, has received a mission to develop a High Technology Light Division (HTLD). The purpose is to produce a lean, hard-hitting division that will incorporate the latest technological innovations and meet the Chief of Staff's design criteria.⁴ Despite this emphasis on the HTLD, the organization-equipment mix of the Infantry Division (Light) still remains a problem. This is because the weapons and equipment undergoing evaluation were mostly planned and developed in the 1970s, fielded in the 1980s, and designed to meet the requirements of conventional mechanized warfare on the Central European battlefield. The technology that would confer the firepower, mobility, and sustainability of today's Infantry Division (Light) is simply not here and will not appear in most weapon systems for the next decade. The Army's plan to establish as many as four light divisions by fiscal year 1987 (three in the active and one in the National Guard) would mean a sub-optimal organization-equipment mix.

PURPOSE

This thesis will assess the equipment needs of the U.S. Army Infantry Division (Light) in the 1990s. If required, the thesis will recommend changes to its present Table of Organization and Equipment (TOE). It would appear that the most critical resource limitations for meeting the mission requirements of the 1990s will be in the areas of manpower, equipment, training, infrastructure, and organization. However, this thesis will focus only on the qualitative aspects of equipment.

RESEARCH OBJECTIVES

Although the main research objective is to ascertain the need for equipment changes in the Infantry Division (Light), we have to extend coverage to the following intermediate objectives:

- a. Identify the revised missions, if any, for the Infantry Division (Light) in the 1990s;
- b. Assess the Threat's Light Forces or equivalent (to include Soviet surrogate forces) in the 1990s; and
- c. Review the various technologies and weapon systems that are applicable to the Infantry Division (Light).

ASSUMPTIONS

In order to limit the scope of this research effort to manageable proportions, this author has made the following assumptions:

a. Looking at the world context of the 1990s, and at the spectrum of conflicts, this author will examine only the missions assigned to the Light Forces, of which the Infantry Division (Light) is a subset. It is assumed that the missions assigned to the Infantry Division (Light) would undergo minor revisions as a result of strategic reviews and feedbacks from exercises, and from the HTLD Test Bed.

b. The AirLand Battle doctrine, contained in the revised FM 100-5: Operations, is intended to be applicable to all scenarios which the U.S. Army may face in the foreseeable future. It is no coincidence that the doctrine was formulated for low-intensity, relatively unsophisticated battlefields as well as that of Central Europe. AirLand Battle doctrine will probably not change significantly in the 1990s despite advances in weaponry. The doctrinal principles -- initiative, depth, agility, and synchronization -- will continue to drive equipment and weapon developments.

c. The U.S. will continue to maintain a decided advantage in high technology, an area which will contribute significantly to

increased combat effectiveness.

d. The time taken for the development of an operational requirement to the actual fielding of the hardware is between ten to fifteen years.

DEFINITIONS

All operational terms and concepts used in this thesis are defined in the following manuals:

- a. Field Manual (FM) 101-5-1 (HTF): Operational Terms and Graphics;
- b. Field Manual (FM) 100-5: Operations;
- c. Field Circular (FC) 71-101: Light Infantry Division Operations; and
- d. Field Circular (FC) 100-1: The Army of Excellence.

LIMITATIONS

The main difficulty in undertaking this thesis has been in obtaining accurate and pertinent information on various research objectives, especially on the extent of Soviet involvement in Third World conflicts and the force structure of Soviet units and their surrogate counterparts. The nature of this thesis is such that few unclassified sources exist, and even some normally credible sources

must be treated with caution. The author has been forced to take a fairly eclectic approach in obtaining information, relying on whatever reliable sources, whether military periodicals, journalistic reports, technical developmental test/operational test (DT/OT) reports, interviews, or information from intelligence sources which have managed to make their way into media. The author has tried to exercise great caution in evaluating all sources, but occasionally he has made personal judgements as to whether or not credibility could be attributed to certain sources that could not be independently confirmed. Whenever this has been the case, the author has made appropriate qualifications in the text or in the corresponding endnote.

DELIMITATIONS

The thesis will have two major research delimitations. Firstly, the Infantry Division (Light) will be considered as a separate and distinct subset of Light Forces, although the distinction between specialized Light Forces and Infantry Division (Light) is really academic. The Infantry Division (Light) is designed to fight a mid- to low-intensity conventional war in the Third World. While it is also recognized that airborne and special forces units may be deployed rapidly to overseas theaters, this thesis will not address these units, although some of its findings may be applicable to them. The capabilities of the traditional airborne forces, rangers, and special forces are often complementary to those of the Infantry Division (Light). This is true when we consider contingency

operations. Secondly, commercial off-the-shelf items, research and development prototypes or foreign equipment that have not undergone the DT/OT phase before July 1985 will not be included in the equipment review.

THESIS FORMAT

The study is designed primarily to illustrate the tactical and operational aspects of the organization-equipment mix within the Infantry Division (Light) as a consequence of U.S. strategic policy in the employment of light forces in local conflicts. In this respect, the present treatment departs from the main trend among studies of light infantry forces. The tendency has been for defense analysts either to focus on certain features of the division, for example its strategic utilization, in different theaters of operation, its organizational structure or to validate the equipment requirements to support its assigned missions.⁵ Such aspects of the light infantry division are by no means overlooked in this study, but the intention is to focus on a somewhat different, relatively neglected macro-approach: the analysis is based on the threat, the revised missions of the Infantry Division (Light), and other technological considerations.

The study is organized as follows. This chapter is intended as an introduction to the work as a whole. The literature survey conducted in Chapter 2 is divided according to the specific topics discussed in succeeding chapters. It will trace the equipment

requirements of the Infantry Division (Light) through the various intermediate research questions linked by the model depicted in Figure 3-1. Because so much has been written on light infantry forces and its operations in the last few years, this author will not attempt to "revisit old ground." Nevertheless, this chapter will provide the interested reader with an introduction to the sources used in the thesis.

Chapter 3 will deal with the nature of the strategic and tactical environments in the 1990s and provide the revised missions for the Infantry Division (Light). Besides the predictive use of 'expert' judgements from certain definitive works on infantry, this author will also use an historical approach to compare U.S. experience in designing and employing of light infantry forces with some foreign armies. The resulting synthesis will provide insights into the future battlefield, as well as the roles and equipment requirements for light infantry forces on those battlefields. Chapter 4 will assess the potential threat to U.S. interests in the 1990s. It will examine briefly the results of past Soviet involvement in Third World conflicts, extrapolate the trends to include future Soviet behavior, illuminate the political-military conditions that encourage Soviet intervention, and explore those force projection means which may have an impact on the success of light infantry operations, namely Soviet airborne troops and Soviet-backed proxies. However, the chapter does not treat Soviet involvement principally as a problem in

U.S. foreign policy. Chapter 5 reviews the various emerging U.S. and foreign technologies and equipment available that could make an order-of-magnitude difference in combat effectiveness for the Infantry Division (Light). Besides formulating the selection criteria for future equipment, the chapter will tabulate the qualitative improvements needed for selected TOE weapons and equipment.

Chapter 6, the conclusion of this work, will summarize the findings of the intermediate research objectives. It will provide an answer to the question of the adequacy of equipment within the Infantry Division (Light) during the period 1990-2000 and specific recommendations on what weapon systems to equip these forces.

CONCLUSION

Admittedly any attempt to perceive the future is subject to criticism, and this thesis is no exception. Even though the trends discussed in the analysis may be overcome by dynamic events, the deductions and implications derived for the Infantry Division (Light) would be of direct benefit to the U.S. Army. Nevertheless, we might do well to heed Robert H. Kupperman's caution:

Only at the end of the 1980s are the American Congress and public likely to realize fully the significance for U.S. national interests of the slow but steady Soviet geostrategic gains during the decade. Then, America will turn to a period of "interventionism," supported by a public willingness to sacrifice for defense, to preserve aggressively U.S. vital interests abroad -- only to find that the decisions not taken in the early- to mid-1980s on Army doctrine and, more especially, weapons systems will constrain mission capabilities. By then it may be too late to reconfigure the Army's organization and training, or tailor the needed

technology for a non-NATO environment.⁶

Now is the time to start thinking about the year 2000. Our appointment with the future is closer than we think.

ENDNOTES

¹CDD, CACDA, Operational Concept for the Infantry Division (Light): 2-3. As an introduction to the Infantry Division (Light) concept and guidelines, the reader is referred to General John A. Wickham, Jr., White Paper 1984: Light Infantry Divisions, Concepts Development Directorate, Combined Arms Combat Development Activity (CDD, CACDA), Operational Concept for the Infantry Division (Light) (Fort Leavenworth, KS: CDD, CACDA, 15 March 1984), Force Design Directorate, Combined Arms Combat Development Activity (FDD, CACDA) The Army of Excellence Final Report: The Light Infantry Division (Fort Leavenworth, KS: FDD, CACDA, 1 October 1984) and Field Circular, FC 100-1: The Army of Excellence (Fort Leavenworth, KS: FDD, CACDA, 1 September 1984).

²William J. Taylor, Jr., and Jeffrey D. Pierson, "Revised Missions, Manpower, and Training for the 1990s," in Robert H. Kupperman and William J. Taylor, Jr., (eds), Strategic Requirements for the Army to the Year 2000 (Lexington, MA: Lexington Books, 1984): 127. In this article, Taylor and Pierson conclude that the U.S. Army needs to prepare for three possible missions requiring forces considerably different in size, composition, and organization. Instead of tasking the security-assistance forces to conduct limited "surgical" strikes, as proposed by Taylor and Pierson, this author believes that it should be a mission undertaken by the light infantry division.

³The distinctive characteristics of the Infantry Division (Light) are listed in FDD, CACDA, FC 100-1: 2-1. In addition, the division will have nine maneuver battalions. When compared with the current infantry division, the Infantry Division (Light) is capable of deployment in fewer than one-third the number of C-141B equivalent sorties and in one-third the time.

⁴Jack R. Tate, "The High Technology Light Division," Army

RD&A (January-February 1983): 8. A brief overview of the concept and design for the Infantry Division (Light) is given in Captain Timothy Hassel, "The Light Infantry Division ... A New Direction in Force Design," Army RD&A (May-June 1984): 14-16. The article describes the division's organizational structure, characteristics, and also its capabilities and limitations.

⁵Some important works done on the Infantry Division (Light) include: Steven L. Canby, Classic Light Infantry and New Technology, a DARPA-sponsored project; Edward N. Luttwak, An Historical Analysis and Projection for Army 2000, and Strategic Utility of U.S. Light Divisions, A Systematic Evaluation. The latter two studies were sponsored by TRADOC.

⁶Robert H. Kupperman and Associates, Inc., Low Intensity Conflict (TRADOC Contract No. DABT 60-83-C-0002, 20 June 1983): 7-8.

CHAPTER TWO

SURVEY OF LITERATURE

The only thing new in the world is the
history you don't know.

Harry S. Truman

INTRODUCTION

To begin with any historical research on the light infantry division, the reader is advised to consult Major Scott R. McMichael, Light Infantry Forces, Combat Studies Historical Bibliography No. 2, January 1984. This comprehensive bibliography was first prepared for the light infantry division force design study for the purpose of facilitating research on past and current light infantry division-type forces. It was later expanded to include other aspects of light forces: airborne divisions, U.S. infantry divisions between 1950-1960, comparative assessments of infantry division designs, technical analyzes, and foreign armies' infantry units. Although the bibliography refers to all types of light infantry forces and contains sources not directly related to the scope of this thesis, it is

recommended that this bibliography be used as a starting point for anyone interested in doing research on light infantry division or light forces in general.

The literature survey conducted in this chapter is divided according to the specific topics discussed in the following chapters. The following discussion of sources is not in itself a comprehensive review, and further references on points of detail will appear in the respective chapter endnotes.

A QUESTION OF UTILITY

The Strategic Environment

Robert H. Kupperman and William J. Taylor, Jr., (eds), Strategic Requirements for the Army to the Year 2000 is invaluable as a background study on the nature of war in light of the changes in the international order. It offers an excellent guide for the U.S. Army to the year 2000. The authors conclude that it is highly unlikely that the U.S. will wage another massive European land war in the coming decades. Rather, the U.S. will face low-intensity, conventional, and proxy conflict in non-European areas. This conclusion is also identified in: Captain John J. McIntyre (ed), The Future of Conflict, a report on a series of mini-conferences co-sponsored by the Assistant Secretary of Defense for International Security Affairs and the National Defense University; Sam C. Sarkesian and William L. Scully (eds.), U.S. Policy and

Low-Intensity Conflict: Potentials for Military Struggles in the 1980s, which analyzes the important factors in U.S. policy and the conduct of low-intensity conflict. In the first report, distinguished panelists discuss their viewpoints on the future of conflict, out toward the end of the century, and explore the inherent risks to the U.S. in that future. The second book provides adequate viewpoints to assist the reflective reader in assessing major characteristics of non-nuclear conflict, the conflict phenomenon in general, U.S. security interests, and various policy options. William J. Taylor, Jr., Steven A. Maaranen, and Gerrit W. Gong (eds), Strategic Responses to Conflict in the 1980s, is a balanced and sober assessment based on a panorama of possible conflict scenarios. The authors conclude that U.S. is ill-prepared today to address the Soviet challenge to its preeminence. In the military dimension, U.S. strategic nuclear deterrence system is essentially irrelevant to Third World conflict. To cope with the many Third World contingencies, the authors believe that the U.S. needs smaller and more specialized forces with greater mobility and more imaginative forms of tactical mobility. A rigorous comparative analysis of the effectiveness of military force as a political instrument is given in Chapters 3-5 of Barry M. Blechman and Stephen S. Kaplan et al., Force Without War. The authors rely on a comprehensive historical record of conflicts and incidents to ascertain the variations in force strength, significance of tactics, and other diplomatic strategems.

Forecasting As A Tool

The linkage model used in this thesis to relate equipment requirements with national security, the threat, and revised missions for the light infantry (see Figure 3-1) is an adaptation of Harold Brown, "Technology, Military Equipment, and National Security," Parameters (March 1983). Coherent treatment of futures research is presented in Olaf Helmer, Looking Forward: A Guide to Futures Research. The book is concerned with generic methods of exploring the future and the application of such methods to long-range planning. As an introduction to the use of forecasting as an analytical tool, the reader is directed to Chapter 1 of Robert H. Kupperman and William J. Taylor, Jr., (eds), Strategic Requirements for the Army to the Year 2000, which is extracted from William J. Taylor, Jr., The Future of Conflict: U.S. Interests.

The Tactical Environment

Roger A. Beaumont, "Military Elite Forces: Surrogate War, Terrorism, and the New Battlefield," Parameters (March 1979), provides a brief commentary of the future battlefield. Although Beaumont describes in great length the future battlefield in support of his conclusion that there is a need to retain elite forces, there are sections in the article which are relevant to the thesis. William T. McLarty, Jr., "Technological Implications: The Need for Change," Military Review (January 1983) is of little significance on the future battlefield but lists some interesting postulates for future warfare.

U.S. Experience With Light Infantry

The most comprehensive history of U.S. Army's experimentation with light divisions during World War II is described in a chapter of Kent R. Greenfield, Robert R. Palmer, and Bell I. Wiley, United States Army in World War II: The Army Ground Forces: The Organization of Ground Combat Troops. It provides a clear and concise description of Lieutenant General Leslie J. McNair's futile attempt to form and test the experimental light divisions. Even though the authors omitted details on light division design and how the divisions were tested, the authors correctly identify the contributing factors on why the trials failed and the introduction of these divisions to the various theaters rejected. Captain Jonathan M. House, "Designing the Light Division, 1935-1944," in Military Review (May 1984) gives a short account of earlier debates pertaining to the U.S. triangular infantry division. Between World War II and the Army of Excellence, the U.S. did not have a truly light infantry division. Only the airborne divisions of the period approximate the size, mission, and deployment capability of the recently-created light infantry division. Consequently, there is no comprehensive source material on U.S. light infantry divisions. They have hitherto been treated as part of the U.S. Army Division. Russell F. Weigley, History of the United States Army, an excellent work, explains the employment, capabilities, limitations, and design of the other basic divisions of the period: armor, mechanized, airborne, and air assault.

The evolution of divisional designs since World War II is discussed in Robert A. Doughty's The Evolution of U.S. Army Tactical Doctrine. It gives an excellent account of the factors contributing to changes in divisional designs. The author discusses such factors as national security policy, new technologies, service and branch parochialism, and battlefield experience. The discussion of the interrelationship of these factors provides a clear understanding of force structure decisions without getting too involved in force design issues and details.

Virgil Ney, in his two comprehensive histories, Evolution of the U.S. Army Division, 1939-1968, and Evolution of the U.S. Army Infantry Battalion, 1939-1968, traces the development of the U.S. Army divisions and the U.S. infantry battalion respectively. The first work, written in January 1969 for the U.S. Army Combat Development Command, contains an extensive bibliography. While tracing the development of the divisions, Ney focuses primarily on comparing and contrasting the design characteristics of the different divisions and the employment of the brigade.

John C. Binkley, "A History of U.S. Army Force Structure" Military Review (February 1977) provides a concise overview on the history of U.S. Army divisional changes. He discusses the World War I square division, the World War II triangular division, and the postwar pentomic, MOMAR, and ROAD divisions. To bridge the gap

between 1970 and the start of Army of Excellence, the single best source is John L. Roajue's A History of Army 86, Volume I: Division 86, published in November 1980, and Volume II: The Development of the Light Infantry Division, The Corps, and Echelons Above Corps, published in December 1981. These two volumes describe the development of Army 86. Of interest to this thesis were the efforts to develop Infantry 86 and the initial efforts to develop the High Technology Light Division (HTLD).

Foreign Armies' Experiences With Light Infantry

Steven L. Canby, "Light Infantry in Perspective," Infantry (July-August 1984), distinguishes between the term "light infantry" as used in U.S. and in Europe. He concludes the discussion by stressing various important conditions which will enhance the survivability of non-mechanized infantry: dispersion, elusiveness, and ambiguity. Part I of Edward N. Luttwak, An Historical Analysis and Projection for Army 2000 is devoted to the discussion of U.S. and foreign light infantry division type forces. The document, done under contract for TRADOC in 1983, just prior to the Army of Excellence, contains eighteen separate research papers on historical and contemporary "dissimilar" forces. Each paper describes in some details the force design, capabilities, limitations, and employment considerations. The light forces discussed include: U.S. Army 10th Mountain Division, Soviet Mountain Rifle Divisions, Swedish Norrland Brigades and Jagar units, Swiss Mountain Divisions, Austrian Mountain Battalions and the

Jagdkampf Forces, the West German Light Infantry, Israeli Paratroop Brigade and Golani Brigade, and the British Infantry. In Part II of the document, Luttwak draws several conclusions from the analysis. He outlines the reasons why there is a need for light infantry in conventional warfare, and describes how to optimize its employment. As the conclusions make comparisons between heavy and light forces, its recommendations are of direct interest to readers doing research on both types of forces. Paper No. 19 of Part I contains extensive bibliographic notes for the research papers in Part I. To supplement Luttwak, An Historical Analysis and Projection for Army 2000, the reader is referred to John. A. Berry's excellent introduction to the French "Force d'Action Rapide" in French Light Forces, a report to TRADOC.

An interesting historical account of the development of the infantry combat arm from 1866 to the present is given in John A. English's definitive On Infantry. In this well-researched account, English emphasizes the need for more extensive small group training for infantry troops, proper employment of infantry and minor tactics. In view of the significant role played by infantry in the twentieth century, English concludes that "foot soldier will continue to occupy an extremely important place in any future conflict."¹ To support his conclusion, English describes at length some foreign infantry, namely: German and Russian infantry operations in World War II, the Japanese infantry in Burma, U.S. Marine infantry in the Pacific, Chinese Communist infantry in Korea, and the Israeli infantry in the

Arab-Israeli wars. In another article entitled, "Thinking about Light Infantry," in Infantry, (November-December 1984), English describes the two forms of infantry within the context of NATO: "light," or non-armored infantry and "heavy," or armored combat troops. Once again he concludes that, regardless of the "all-conquering powers of [modern] technology," the traditional skills of the infantryman will still be applicable in the next conflict.² In this regard, his conclusions are very similar to the remarkably comprehensive study Man Against Fire: The Problem of Battle Command in Future War by the able U.S. Army historian, Samuel L. A. Marshall. Brigadier General Kenneth C. Leuer, "The AirLand Battle: 1984 to 2001 and Beyond," Defense Science 2001+ (December 1983) supports the view that the infantryman will remain the keystone in any future conflict. Colonel Huba Wass de Czege, in "Three Kinds of Infantry," Infantry (July-August 1985), while agreeing on 'in-house infantry', sub-divides English's "line infantry trained in light infantry skills" further into regular and light infantry.

The Army of Excellence Infantry Division (Light)

General John A. Wickham, Jr., White Paper 1984: Light Infantry Divisions is a valuable official endorsement to the Army of Excellence (AOE) Infantry Division (Light) concept. This White Paper explains in clear terms the Chief of Staff, Army (CSA)'s position on the need for and purpose of a light infantry division, and the direction he expects the Army to take in bringing the light infantry

division into the force structure. Other primary documents which also add to the reader's understanding of AOE Infantry Division (Light) include: Operational Concept for the Infantry Division (Light), dated 15 March 1984 and developed by the Concepts Development Directorate, Combined Arms Combat Development Activity (CDD, CACDA); Field Circular, FC 100-1: The Army of Excellence, dated 1 September 1984 and The Army of Excellence Final Report: The Light Infantry Division, dated 1 October 1984. Both reports are developed by the Force Design Directorate (FDD, CACDA). The CDD document explains how the light infantry division and its major subordinate units are optimized at the lower end of the conflict spectrum, and with adequate augmentation in a mature theater like NATO. The other two FDD documents record the design evolution and key decisions made during the design process of AOE and the light infantry division, respectively. Another useful document is the USACGSC, Field Circular, FC 71-101: Light Infantry Division Operations, dated 31 July 1984. The purpose of this Field Circular is to provide an interim description of the light infantry division organization and how it will fight. All these references contribute valuable insights into the need for a light infantry division and its employment criteria.

Most studies of AOE Infantry Division (Light) concentrate on the utility of light divisions. In light of the current efforts in designing the light infantry division, most of the information on the debate about its utility can be found in current articles and

periodicals. Two important articles which introduce the reader to the light infantry concept are written by General John A. Wickham, Jr., Chief of Staff, Army and General Fred K. Mahaffey, the former Deputy Chief of Staff for Operations and Plans, (DCSOPS). The first article is a reprint of General John A. Wickham's White Paper in the Army Times (7 May 1984) entitled, "Light Division's Effectiveness Will Grow From 'Soldier Power'." The other article -- Lieutenant General Fred K. Mahaffey, "Structuring Force to Need," Army (October 1984) provides the key to the understanding of the Army's position on the need to balance the force structure. In an Association of the United States Army (AUSA) Annual Meeting address, Mahaffey reiterated on the inadequacy of current U.S. conventional infantry forces in handling conflicts at the lower end of the conflict spectrum. A detailed write-up of his speech is given in "Landpower is Decisive Combat Element," Army (December 1984). In an earlier symposium on The Employment of Non-mechanized Infantry, jointly sponsored by the RUSI and the Commander, ACE Mobile Force (Land), held in Hamburg on 28 April 1980, Lieutenant General William R. Richardson presents the quantitative argument in favor of the light division.

As a follow-up to his previous study, An Historical Analysis and Projection for Army 2000, Edward N. Luttwak explains how the light infantry division would enhance NCA's strategic deployment options in Strategic Utility of U.S. Light Divisions, A Systematic Evaluation, a TRADOC-sponsored study. In this study, he develops four possible scenarios that could utilize light infantry divisions. These missions

are: defending in a major theater (NATO) as either a forward-deployed or reinforcing division; fighting in desert or arid mountain terrain such as those found in Southwest Asia; executing peacetime contingencies such as intervention (coup de main), international rescue, peacekeeping, and anti-terrorism; conducting counterinsurgency operations, military assistance, or advisory roles in low-intensity conflict theaters such as Central America. By drawing on his previous understanding of the Israeli Defense Forces, he concludes the report with some recommendations for training the light infantry division.

Although there are many articles which expressed reservations on the concept and utility of light infantry divisions, three excellent arguments against the concept are: Michael R. Gordon, "The Charge of the Light Infantry -- Army Plans Forces for Third World Conflicts," National Journal (19 May 1984), Edwin W. Besch, "Are Our Light Divisions Too Light?" Army (February 1984), and Tony Velocci, "The New Light Division: Will It Work?" National Defense (November 1984). In the first article, Gordon summarizes the opinions of those who are against the issue. In the second article, Besch states that a light mechanized division as opposed to a light infantry division is needed in the force structure to handle most contingency missions. He contends that the proposed U.S. light infantry division's tactical mobility and firepower are inadequate to deal with the armaments of most Third World countries. A solution to redress this shortcoming in

the force structure is to equip the light divisions with sufficient light armored vehicles and artillery. In the third article, Velocci questions the range of contingencies the light division could be called upon to respond and its sustainability in combat. Colonel Dale K. Brudvig, "The Division May Be 'Light', But Can It Fight?", Army Times (10 September 1984) argues against the light infantry division's ability to fight on the high-intensity battlefield, especially against either the Soviets or its surrogate forces. Lieutenant Colonel Robert B. Killebrew disagrees with Brudvig's conclusions in his article, "NATO, Deterrence and Light Divisions," Military Review (May 1985). In Killebrew's words, "the key to employment of light forces [in mid- to high-intensity battlefields] is the selection of appropriate terrain."³ In an earlier article, "Light Infantry in Europe: Strategic Flexibility and Conventional Deterrence," Military Review (December 1984), Captain David H. Petraeus provides sufficient arguments to convince the reader of the utility of light infantry in Europe as a strategic conventional deterrence. Sources which support Killebrew's and Petraeus's views include: a series of three articles contained in Infantry (July-August 1984) -- Lieutenant General Jonn R. Galvin, "Heavy-Light Forces and the NATO Mission," Major General Howard B. Crowell Jr. and Lieutenant Colonel Jared L. Bates, "Heavy-Light Connection: Division," and Lieutenant Colonel Jack B. Wood, "Heavy-Light Connection: Brigade,"; William J. Olson, "The Light Force Initiative," Military Review (June 1985); and General William E. Depuy, "The Light Infantry: Indispensable Element of a

Balanced Force," Army (June 1985). Although the Infantry series on heavy-light forces manages to dispel many reservations concerning the utility of the light infantry division and shows how the light infantry division can be synchronized with heavier forces for participation on the NATO battlefield, it raises the issue of organizing the light infantry in brigade-equivalent instead of division size. Lieutenant Colonel Clayton R. Newell, "Heavy-Light Forces: Divisions or Brigades?" Infantry (January-February 1985) highlights both sides of the discussion briefly.

THE THREAT

Soviet Involvement in Third World Conflicts

The best and most detailed scholarly study of past Soviet involvements in Third World conflicts is Bruce D. Porter, The USSR in Third World Conflicts: Soviet Arms and Diplomacy in Local Wars, 1945-1980, which uses a case-study approach to illuminate certain tactical and operational aspects of the USSR's policy in local conflicts. The concluding chapter outlines Soviet's incremental encroachments on the international order. Other significant works which deal with Soviet involvements in Third World countries include: Stephen T. Hosmer and Thomas W. Wolfe, Soviet Policy and Practice toward Third World Conflicts, and Walter Laqueur, (ed.), The Pattern of Soviet Conduct in the Third World. These books examine the patterns of past Soviet involvement, discuss the political-military conditions that encourage such involvement. In addition, the first book explores

the possible thrust of Soviet behavior that may be expected in the future. In reading of past Soviet involvement in the Third World, the present author is struck by the uniformity of approach and attitude of the articles. Besides the military and strategic considerations, E. J. Feuchtwanger and Peter Naylor, (eds.), The Soviet Union and the Third World also highlight the economic dependency of some Third World countries on the Soviet Union. The authors believe that such economic dependence may well be the most enduring basis for Soviet influence in the Third World.

Force Projection Means

Numerous studies have been made on the rise of Soviet naval capabilities. Of great relevance to its naval force projection capability are: Robert W. Herrick, Soviet Naval Strategy: Fifty Years of Theory and Practice, a readable and scholarly account of Soviet naval strategy and thought since World War II; and Michael McGwire et al. (eds.), Soviet Naval Policy: Objectives and Constraints, a valuable collection and commentary, which presents diverse Western analysts' perceptions of the growing Soviet blue-water naval fleet. Many vivid first-hand accounts were written about the Soviet Navy, notably Sergei Gorshov, "Guarding the Conquests of the Great October Revolution," Morskoï Sbornik (October 1967), and "Navies as Peacetime Instruments of the Aggressive Policy of Imperialists States," Morskoï Sbornik (December 1972).

Soviet Airborne Forces

Lieutenant Colonel David M. Glantz, The Soviet Airborne Experience, Combat Studies Institute Research Survey No. 4, is invaluable as a background study on the development of Soviet airborne theory and practice before and since the Great Patriotic War, 1941-1945. The bibliography contains a wealth of literature pertaining to Soviet airborne warfare. Colonel General D. Sukhorukov, "Conclusions from the Experience of Airborne Landings in World War II" from Voyenno-Istoricheskiy Zhurnal (July 1991) is a shorter work. The author derives interesting lessons from most of the airborne operations in World War II. Peter Borgart, "The Soviet Transport Air Force," International Defense Review (June 1979), gives a good account of Soviet Military Transport Aviation (Voyenno-Transportnaya Aviatsiya -- VTA) assets and capabilities, even though the work may be somewhat dated. Soviet Military Transport Aviation (VTA) is treated as part of the Soviet Air Forces in Soviet Military Power 1985, which provides a useful introduction for the general reader. Weapons of the Soviet airborne troops are considered in David C. Isby, Weapons and Tactics of the Soviet Army; Ian V. Hogg, (ed.), Jane's Infantry Weapons 1985-1986; Christopher F. Foss, (ed.), Jane's Armour and Artillery 1985-1986. Kenneth Allard, "Soviet Airborne Forces and Preemptive Power Projection," Parameters (December 1980), this well-researched article amplifies Thomas C. Schelling, Arms and Influence central theme of preemptive maneuver. Peter J. Boylan, "Power Projection, Risk and the Light Force" is another

interesting Military Review (May 1982) article, which underscores the importance of having flexible and rapidly deployable forces within the U.S. Army.

Proxy Warfare

Soviet proxy warfare is discussed in Robert H. Kupperman and William J. Taylor, Jr., (eds.), Strategic Requirements for the Army to the Year 2000 and Stephen T. Hosmer and Thomas W. Wolfe, Soviet Policy and Practice toward Third World Conflicts. In these books, Soviet proxy warfare is treated as part of its military adventurism in the Third World. In another excellent book, The Angolan War: A Study in Soviet Policy in the Third World, Arthur J. Klinghoffer discusses both the Soviet and Cuban roles in Angola and evaluates the decisive change in Soviet foreign policy that, subsequently caused the U.S. to question the very nature of Soviet-American detente. William E. Griffith, "The USSR in Political Perspective," Parameters (June 1979), an adaptation from an earlier presentation given at the U.S. Army War College, is duly critical about the lack of U.S. response to Soviet use of proxies in Angola and Ethiopia during the Carter Administration.

MODERNIZING THE INFANTRY DIVISION (LIGHT)

Predictive Failures and Problems in Military Technology

Barry J. Smernoff, "The New Faces of Conflict: Some

Implications of the Military Innovation Process for 1990-2000," in John J. McIntyre, (ed.) The Future of Conflict provides the reader with a forecast of various technologically advanced systems in the 1990s. Although the author did not cover weapons research relevant to the Infantry Division (Light), Smernoff's article highlights several pitfalls in futures research. Examples of such predictive failures can be found in Friedrich Engels, Herr Eugen Duhring's Revolution in Science (Anti-Duhring) and Arthur C. Clarke, Profiles of the Future: An Inquiry into the Limits of the Possible. James A. Tegnalia, "Emerging Technology for Conventional Deterrence," International Defense Review (May 1985), a highly critical and controversial but important article, concentrates on the application of new technologies in the future NATO battlefield. Besides presenting the case for using these "emerging technologies" in conventional weapons capable of attacking the enemy's rear areas, Tegnalia also advocates the need for more multi-national equipment development programs. In "The Operational Limits of Emerging Technology," International Defense Review (June 1985), Steven L. Canby, while recognizing the potentials of those technologies highlighted by Tegnalia, cautions the reader on its operational feasibility.

Review of Equipment Requirements for the Infantry Division

An introductory study on the organization and equipment in the Infantry Division (Light) is CACDA's The Army of Excellence Final Report: The Infantry Division, which examines the Infantry Division

(Light) from a force design perspective. It provides this author with an understanding of the rationale behind the design. A number of excellent weapon and equipment requirement studies on the Infantry Division (Light) have been made in the last few years. Of greatest relevance to this thesis are: Edward N. Luttwak, An Historical Analysis and Projection for Army 2000, Part Two: Analysis and Conclusions and Steven L. Canby, Classic Light Infantry and New Technology. Luttwak uses the discussion on foreign armies' equipment in Part I of his study to recommend the equipment requirements for the proposed light infantry. Besides offering the rationale for each equipment selection, Luttwak provides an "optimum" unit organization and manpower strength, up to battalion level. To supplement Luttwak's study, the reader is directed to Norman L. Dodd, "Infantry Tactics and Weapons in the British Army," Asian Defence Review (September 1984). Luttwak appears to draw most of his recommendations from the British Army. Canby's Classic Light Infantry and New Technology is a study produced under contract for the Defense Advanced Research Project Agency (DARPA) in December 1982. The purpose of the study is to identify the areas where technology could enhance the performance of the light infantry. By using a scenario with the mountain infantry in the Zargos Mountains, in both the offense and defense, Canby spells out the qualitative material requirements for the mountain infantry. Canby then sums up, in a somewhat simplistic manner, the other requirements for the light infantry -- which he sets within the context of urban and forest warfare. After identifying these

qualitative material requirements, Canby exhorts the U.S. scientific and engineering communities to focus their research and development efforts towards high-payoff improvements. In "The Infantry -- Thoughts on Weapons and Protection," NATO's Sixteen Nations (December 1983-January 1984), Brigadier General Ernst Klaffus shows how threat, terrain, and technical development could lead to certain types of infantry weapons and equipment. Jack R. Tate, "The High Technology Light Division," Army RD&A (January-February 1983), Harry V. Martin, "AirLand Battle Tactics Demand High-Tech Equipment," Defense Systems Review (October 1983), Timothy Hassell, "The Light Infantry Division ... A New Direction in Force Design," Army RD&A (May-June 1984), F. Clifton Berry, Jr., "The U.S. Army's 9th Infantry Division," International Defense Review (September 1984) are mainly chronological updates on the progress of the High Technology Light Division. The researcher is referred to Ramon Lopez, "The U.S. Army's Future Light Infantry Division -- A Key Element of the RDF," International Defense Review (February 1982) for an earlier overview of the equipment requirements.

Current U.S. and Foreign Countries' R&D Efforts on Infantry-related Equipment

Current U.S. R&D efforts are well discussed in Eric C. Ludvigsen, "Light Forces Reshaping Modernization Program," Army (October 1984) and in "U.S. Army Weaponry and Equipment in Mid-1980s," Army (October 1985). Besides giving a discussion on

advanced technologies and nascent programs, these two articles catalogue major Army weapon systems, less motor vehicles, engineers and logistics equipment, and communications and electronic warfare items. Ramon Lopez, "Where Does the U.S. Marine Corps Go from Here?" International Defense Review (July 1985) deals with equipment development in the Marine Corps. Basic sources for foreign countries' R&D efforts can be found in Ian V. Hogg, (ed.), Jane's Infantry Weapons 1985-1986 and Christopher F. Foss, (ed.), Jane's Armour and Artillery 1985-1986. Both references are used to confirm the weapon and equipment characteristics of U.S. and Soviet weapon systems discussed elsewhere in the thesis.

SUMMARY

In an attempt to answer the various intermediate research questions, this chapter on the survey of literature has been structured in a framework similar to the succeeding chapters. The books and articles used in this research effort are grouped under specific sub-headings primarily to assist the interested reader with an annotated bibliography in some selected topics. The Fort Leavenworth Combined Arms Research Library (CARL) has the vast majority of the resource materials outlined here. Certain government unclassified documents can be obtained from Force Design Directorate, U.S. Army Combined Arms Combat Development Activity.

ENDNOTES

¹John A. English, On Infantry (New York: Praeger, 1981): 217.

²John A. English, "Thinking about Light Infantry," Infantry (November-December 1984): 25.

³Robert B. Killebrew, "NATO, Deterrence and Light Divisions," Military Review (May 1985): 10.

CHAPTER THREE

A QUESTION OF UTILITY

Forces without utility - forces that posture to no effect, forces that demonstrably do not deter effectively or cannot be brought to bear decisively on the military need or threat at hand, forces that do not offer a measured response to the need - simply do not deserve sustained taxpayer or professional support.¹

Fred K. Mahaffey

INTRODUCTION

We live in an era of transition where conflict can be manifested in many ways. A failure to identify the potential problem areas and prepare ahead of time in appropriate fashion may contribute significantly to the potential seriousness of any conflict. The actual process of identifying potential conflicts and problems is, of course, not a simple task. For one reason, no one can confidently predict the future in any but general terms. If dealing with the present is already an extraordinarily complex and demanding task, planning for the future is even more so. And, complexity is

compounded by a lack of accurate data -- past, present, and projected.

There is a growing interest in the study of future conflicts, especially within the context and definition of a U.S. military strategy.² William J. Taylor, Jr. believes that "this interest has emerged from a broad range of developments such as the advancement and diffusion of powerful technologies; the anxieties with war, terrorism, and ... the growth of population coupled with the knowledge that resources are finite."³ These issues have created an awareness of the need for a "macro" approach toward problem solving. For defense planners, it is necessary to gain insights into the future -- more as an aid in making decisions. Decisions made today on major, costly weapons systems require at least some critical informed insights about objectives and the system's relative capabilities in the 1990s. This is because military research and development or procurement of these items often involve lead times somewhere between ten to fifteen years. Robert H. Kupperman confirmed the importance of long-range prediction in his report on Low Intensity Conflict:

[D]ecisions not taken in the early-to-mid 1980s on Army doctrine and, more especially, weapons systems will constrain mission capabilities. By then it may be too late to reconfigure the Army's organization and training, or tailor the needed technology for a non-NATO environment.⁴

In predicting the future, the forecasting approach can be used to obtain these informed insights by delineating major contemporary trends and the dynamics that underlay change. Since forecasting and futures research theory are covered more extensively in other references, the background for these theories will not be repeated

here.⁵ In general, forecasting studies fall into one of these categories:

- a. Studies undertaken to provide predictions about future occurrences in a given field of inquiry within a given time span;

- b. Studies undertaken to respond to possible occurrences with the intention of controlling or directing general specific developments in the future; and

- c. Studies undertaken to project possible future developments so as to assist in designing alternative solutions.

In the next three chapters, we will apply a combination of these techniques (forecasting, long-range planning, and futures research) to determine the equipment requirements for the U.S. Army Infantry Division (Light). Our task, as depicted in the linkage model (see Figure 3-1), is to analyze contemporary strategic trends, which identify the future threat and dangers, and to define the revised missions for the light infantry forces. The linkage model is but one way of relating the equipment requirements for the light infantry forces in the 1990s with the various intermediate research questions listed in Chapter One. Despite the limitations and methodological imperfections of a forecasting approach, this author believes that it will provide us with a valuable tool for formulating recommendations that may shape the outcome of this thesis. Admittedly, it is only with ideas that one is able to study the future and predict

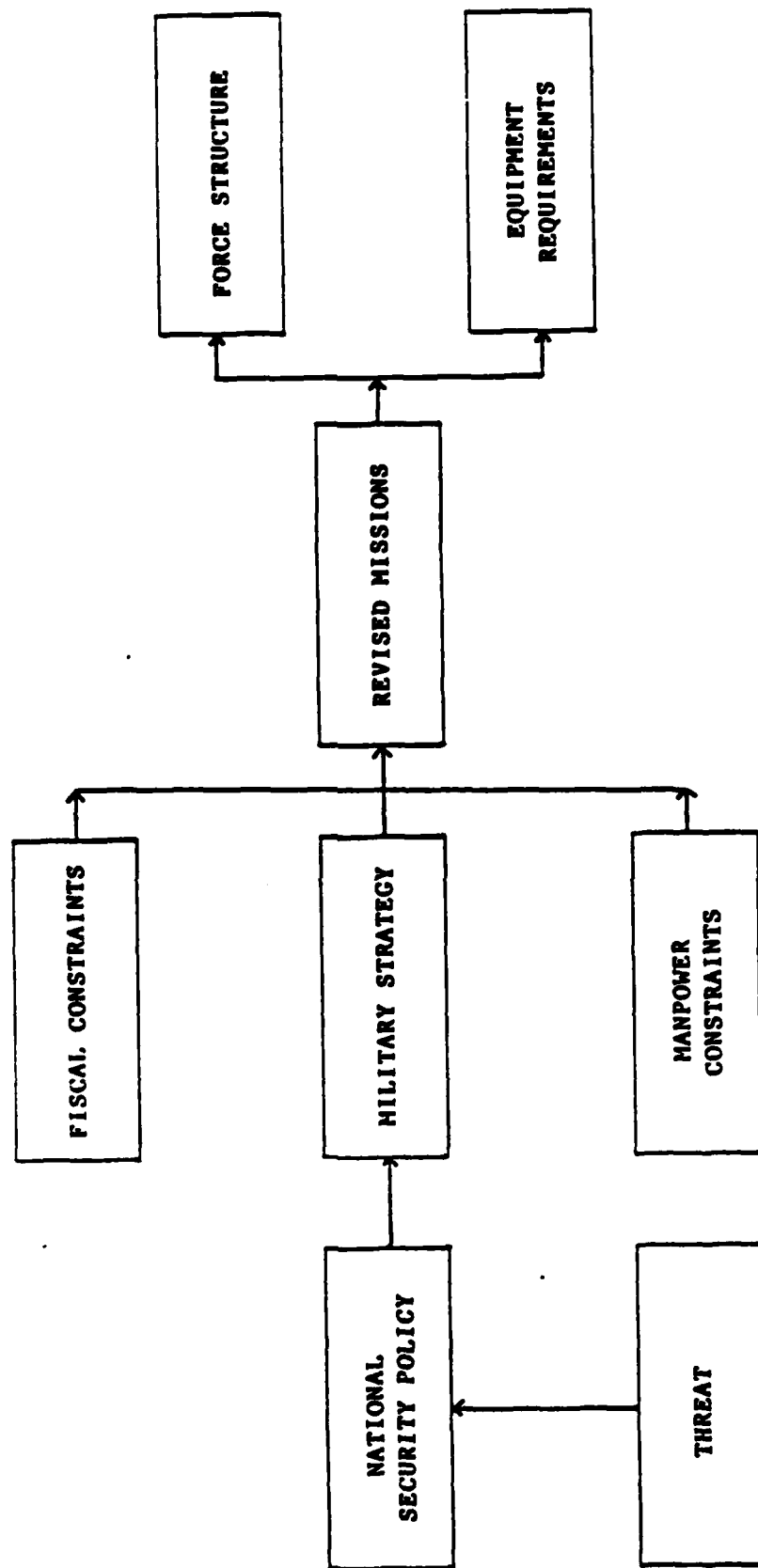


FIGURE 3-1 LINKAGE MODEL

developments. Thus, this predictive use of 'expert' judgement from those publications listed in the bibliography is preferred.

This chapter will deal with the nature of the strategic environment in the 1990s and provide revised missions for the Infantry Division (Light). This author, in perfect accord with the late Major General John F. C. Fuller's epigram "looking back is the surest way of looking forward," will use an historical-analytical approach to compare U.S. experience with light infantry against some foreign countries. The real worth of using an historical analysis to supplement the forecasting approach resides in reviewing the author's understanding of past lessons learned. Following this, the chapter will discuss the most current literature findings on Army of Excellence Infantry Division (Light), and conclude with a summary of the findings.

THE STRATEGIC AND TACTICAL ENVIRONMENTS

There is basic truth in Karl von Clausewitz's dictum, in that:

War is a political instrument, a continuation of political activity by other means. The political objective is the goal, war is the means of reaching it, and the means can never be considered in isolation from this purpose. It is, therefore, clear that war should never be thought of as something autonomous but always as an instrument of policy.⁶

In its simplest form, military strategy is the vital link in the transformation of national security policy into the armed forces' assigned missions.⁷ At the macro-level, the role is to transform the total capabilities of a state into instruments of policy. Yet, in

whatever form or level, military strategy must be defined and stated with increased specificity at each level, starting at the very highest and working down successively until it is stated most explicitly in the mission(s) assigned to a force.

In April 1983, Senator Sam Nunn (Dem.-GA), a ranking member of the Senate Armed Services Committee, recognized the need to change the current U.S. military strategy -- a strategy that has focused on the decisive European battlefield. During his address to The Center for Strategic and International Studies (CSIS), Georgetown University, Nunn argued for a balanced military strategy that would allow the U.S. to meet its global commitment in the future, both in NATO-Europe and contingencies in Third World countries.⁸

Earlier CSIS research on the future of conflict by William J. Taylor, Jr., and Paul R. Ingholt indicated that the strategic environment in the 1990s will be characterized by:⁹

- a. Soviet strategic superiority;
- b. Soviet detente with Western Europe;
- c. A low probability of conventional war in Europe or between the USSR and the People's Republic of China in Asia;
- d. Increasing opportunities for Soviet political and military initiatives to destabilize other parts of the world;

- e. Endemic inter- and intrastate violence;
- f. Widespread and often highly disruptive terrorist acts;
- g. Continued reliance by the U.S. and its allies upon international commerce for fuel and nonfuel resources; and
- h. The growing possibility of nuclear weapons employment in regional conflicts by one or more nuclear powers or by a terrorist or criminal group.

The strategic environment outlined here by Tavlör and Ingholt is no more than a projection of current social, economic, and environmental trends of the world today. There will be occasions when U.S. forces are called upon to meet simultaneous threats of varying magnitude in widely separated geographic and remote areas. At the same time, changing conditions spell the need for a more responsive, lighter and more specialized forces, as opposed to the large-unit general-purpose forces utilized in the postwar era. This deduction will be elaborated further in following sections.

In much the same vein as the CSIS study, The Global 2000 Report to the President: Entering the Twenty-First Century refers to stark realities and draws serious military implications.¹⁰ The report, commissioned by President Jimmy Carter in 1977, concludes that the world environment in the year 2000 will be significantly different in strategic, social, and technological aspects. One of the major considerations which result from the analysis of The Global 2000

Report is that the population explosion projected for the less developed countries (LDCs) preordains, in Lieutenant Colonel John G. Wilcox's words, "a changing locus of conflict."¹¹ Growing overpopulation, coupled with decreased productivity, mass unemployment, and increased urbanization will create severe regional instabilities. In addition to likely internal wars, this destabilization of the international order will offer opportunities for the Soviet Union to increase its geostrategic gains in the Third World. Unless the Soviets perceive a direct threat to their homeland or vital interests, their use of proxies will probably persist. In response to these threats to U.S. interests, Robert H. Kupperman believes that, "... America will turn to a period of 'interventionism', supported by a public willingness to sacrifice for defense, to preserve aggressively U.S. vital interests abroad," when necessary.¹² This could pose a serious challenge to the U.S. Army in that the Army has a poor understanding of and is otherwise ill-prepared to fight in a low-intensity conflict against Soviet direct intervention forces or Soviet-backed proxies; hence, the U.S. needs to develop a military strategy that could, besides deterring the Warsaw Pact in NATO, neutralize low-intensity conflict or at least ameliorate its adverse effects in the LDCs. If this trend persists, Wilcox is correct in concluding that, "the battlefield [of the future] may not be the plains of Europe but rather, the jungles, mountains, or cities of some lesser developed countries."¹³ Missing in the discussion of a viable military strategy, until very recently, is the

critical question of conventional weaponry. The weapons of today and those being designed for tomorrow may be inappropriate for tomorrow's wars. Just as tactical nuclear weapons were judged politically inappropriate in Vietnam, likewise sophisticated and highly lethal conventional weapons, designed against the requirements of conventional mechanized warfare in NATO battlefields, may also be politically inappropriate in the LDCs.¹⁴

On the tactical level, the nature of the future battlefield will retain many of the characteristics that have been evolving since World War II:¹⁵

a. Most of the weapons on the battlefield such as tanks, artillery, and infantry weapons, will be improved, but not essentially different, except to the extent that they are increasingly automated. Even then, no single weapon system is expected to dominate the battlefield.

b. Due to the lethality of weapons on both sides, there will be an increased requirement to locate the enemy and monitor his activities. The need to 'look deep' and the tactical use of an 'information-processing' center, where information from diverse sources and sensors can be integrated, will be a necessity. Surprise and initial disruption of these C³I elements will be the major factors.

c. Problems with rapid augmentation, deployment, and resupply

will remain.

d. Tactical forces will still be looking for ways to deal with nuclear escalation.

e. Well-trained soldiers with the ability to operate effectively during high-intensity periods of conflict will continue to be at a premium.

f. An integration of many systems, arms, and services will be required for success.

This brief discussion of the changing strategic and tactical environments in which the U.S. Army will fight in during the 1990s, provides only a glimpse of some of the considerations which must be taken into account when we attempt to restructure the U.S. armed forces to meet its revised missions. The key point here is that the world is changing, and the supporting military strategy must keep pace with the changes. From the perspective of military strategy and the guidance it provides, defense planners will be able to develop a corresponding force structure and weaponry. Before we proceed with the discussion on the utility of the light infantry division, it is important that we have a clear understanding of the historical employment of light infantry within the U.S. Army and in some foreign armies.

UNITED STATES EXPERIENCE WITH LIGHT INFANTRY

The U.S. Army never really developed a sizeable light infantry of its own, despite the natural inclinations of its early inhabitants.¹⁶ In the Revolution, the bulk of the Continental Army was heavy infantry; only a few units qualified as light infantry. After the Revolution, the Army modelled itself after the British or French. During the Civil War, no distinction could be observed between light and line infantry. Although light forces gained acceptance on the frontier, where the shortcoming of regular troops demonstrated the need for light counterparts, the main Army imitated European military organizations.

As with other armies, the infantry and armored divisions in the U.S. Army bore the main burden of the land fighting in World War II. However, it was clear in 1942 that the U.S. Army must prepare itself for a variety of specialized operations, both operations under extreme climatic conditions, as exemplified in Norway, Tunisia, Burma, and the Pacific Islands, and operations by special means of assault, such as amphibious and airborne. The project to create such specialized divisions led to U.S. experimentation with "light divisions", which had the structure of the standard triangular infantry divisions, except with reduced troop strengths.¹⁷

In brief, these experiments attempted to convert the standard infantry division into seven specialized units: jungle, mountain,

desert, airborne, amphibious, pack (alpine), and light truck divisions. The first three divisions -- jungle, mountain, and desert divisions were organized to meet specific climatic and terrain considerations. Airborne and amphibious divisions were tasked to exploit certain operational situations with speed and surprise. Pack (alpine) and light truck divisions were designed to operate in close, difficult, and untrafficable terrain.

One important reason why the early light divisions never really caught on can be attributed to the desires of the various theater commanders. It was a failure to meet the specific requirements of field commanders that spelled the eventual doom for the all-purpose light infantry division.¹⁸ In a classified radio message to the War Department, General Dwight Eisenhower thought the light division might have limited usefulness in rugged mountainous terrain like that of Tunisia.¹⁹ Colonel Frank Merrill, representing General Joseph Stilwell's China-Burma-India theater, thought the light divisions to be valuable in jungles and mountains in underdeveloped countries such as China.²⁰ General Douglas MacArthur argued against the proposed light divisions, claiming that the divisions were deficient in logistics and firepower for employment in the Pacific Islands. The practice in the Southwest Pacific Area Command, according to field commanders, was to insert a standard infantry division and use it to the point of exhaustion.²¹ Each theater commander, with his own set of unique theater requirements, was looking for a specialized theater division, not an all-purpose light

infantry division. They wanted these specialized light infantry divisions in addition to their allocated infantry and armored divisions. They did not want to convert or lose any of their standard divisions.²²

Subsequently, by the beginning of 1945, except for the airborne and pack (alpine) divisions, all the experimental and specialized divisions of 1942 had either disappeared or to a large extent lost their unique features. The airborne divisions came to approximate standard infantry divisions, except in the means by which they reached the scene of combat. Airborne divisions began like the light divisions as smaller parallels of standard divisions, but as understrength formations they had trouble sustaining combat and consequently, developed in a direction opposite to that favored by General Leslie McNair. Likewise, the pack (alpine) division remained a specialized division, but with its strength increased to resemble that of a standard division. Since 1945, the tendency was to have only two wholly distinct types of divisions -- infantry and armored. With increasing demands for organic tanks in infantry divisions, and for more infantry troops in armored divisions, even the distinction between these two types became less pronounced.

After World War II, the U.S. Army underwent many force structure changes in order to match prevailing strategic policies, priorities, threat assessments, and operational doctrine. Some of the organizational designs either implemented or tested include:

"Pentomic" division, Reorganization Objectives Army Division (ROAD) division, Triple Capability (TRICAP) division, air assault division, Division Restructuring Study (DRS), and the High Technology Light Division (subsequently changed to High Technology Motorized Division). Several excellent texts have been written on the evolution of these organizational designs.²³

From 1946 to 1960, the policy of massive retaliation dampened the development of conventional forces. In particular light forces suffered, even though the U.S. Army saw the need to build up its conventional forces. The closest the U.S. came to having light infantry forces were its two airborne divisions. With nuclear parity in the 1960s, massive retaliation was no longer a viable U.S. option or threat to the Soviet Union, so long as direct confrontation over vital U.S. interests could be avoided. To respond to Soviet-backed "liberation wars", insurgency, terrorism through surrogate forces or proxies, the U.S. adopted a limited flexible response strategy. This gave rise to a rapid build-up of "unconventional" forces within the Army, with simultaneous retention of heavy force orientation towards Europe.²⁴

After the Vietnam debacle in the mid-1970s, U.S. Army Training and Doctrine Command (TRADOC) began working on the "Army 86" divisions. While the Army acknowledged that U.S. divisions might be deployed all around the globe in a variety of combat, climate, and terrain conditions, force developers insisted that the defense of

Europe was the Army's most difficult and primary task. All divisions must be structured with the reinforcement of NATO in mind.²⁵ This focus on the next European war has tended to create a force structure without appropriate strategic mobility to intervene in Third World contingencies. To resolve this dilemma of simultaneous responsibility for deterring and fighting small wars in remote areas of the world, while also participating in the deterrence and perhaps actual waging of large-scale war in NATO-Europe, President Jimmy Carter created the Rapid Deployment Joint Task Force (RDJTF) in 1980. For the Army, those units designated for the RDJTF came from the 82nd Airborne Division, the 101st Airborne Division (Air Assault), the 24th Infantry Division (Mechanized), the 6th Air Combat Cavalry Brigade, and assorted Ranger, Special Forces, and headquarters units. In an excellent account, History of the United States Army, Russell F. Weigley provides some of the reasons why the RDJTF was a failure from the start.²⁶ From trial-and-error experimentation with rapid deployable force, Army leaders, in particular General Edward C. Meyer, then Army Chief of Staff (CSA), recognized the need for lighter and more deployable divisions, somewhere between the heavy divisions and the airborne and air assault divisions, which could respond to global contingencies and reinforce NATO. Meyer felt that the solution to developing this fighting force and implementing the new AirLand Battle doctrine could be found through the use of technology. In attempting to meet the CSA's design guidelines, TRADOC developed several divisional designs, including a 12,000-man division, but did

not succeed in gaining approval.²⁷ During this period, the 9th Infantry Division, one of the four infantry divisions in the active Army, was given a mission to develop a High Technology Light Division (HTLD). The purpose of the test bed was to find and evaluate both current technology and innovative concepts in an attempt to design a division that could meet the CSA's guidelines. But given the state of current technology and the clearly dual missions desired of Infantry Division 86 and HTLD, TRADOC found it almost impossible to design such a light deployable division.

In summary, U.S. experience in designing light infantry division type forces prior to Army of Excellence (AOE), except for the airborne and air assault divisions, remains somewhat limited. Admittedly, although the need for a light infantry division may have been recognized, it did not receive any resource priority. Although tactical doctrines and technology changed divisional designs several times, the Army's basic force structure philosophy hardly changed. In the executive summary of Classic Light Infantry and New Technology, Steven L. Canby sums up the characteristics of U.S. light infantry: ²⁸

- a. An all-purpose infantry deemed suitable for world-wide generalized deployment;
- b. Regular infantry made light, by simply reducing the vehicular scales and lighter artillery for greater strategic mobility;
- c. Organized, and equipped for positional set-piece combat,

though requiring augmentation for sustained combat.

Moreover, the U.S. force structure since World War II, has always inclined toward the NATO battlefield, resulting in evolved divisional designs and force structure clearly unsuitable for rapid deployment to other parts of the world. The recent shift in U.S. economic interests, its global commitments, the threat and its continual use of proxies in the Third World have substantially accelerated the need to restructure the U.S. armed forces.

FOREIGN ARMIES' EXPERIENCES WITH LIGHT INFANTRY

Major Richard R. Babbitt, in his M.M.A.S. Thesis, "The Light Infantry Division -- How Many Are Needed?" provides several reasons why foreign armies' experiences with light infantry forces far exceed the U.S. experience. The reasons listed by Babbitt include:²⁹

- a. Resource constraints;
- b. Lack of overseas or extra-continental commitments;
- c. Defensible borders comprised of compartmentalized terrain;
- d. Organization and equipment;
- e. Tactics; and
- f. Training.

By using the distinction between "classic light infantry" and

"light infantry American-style", Canby explains why most foreign light infantry division type forces are brigade equivalent in size, highly elite, context-specific, and unburdened by any overseas constraint. By situating his scenario in the Zagros Mountains against Soviet forces, Canby argues that classic light infantry, where the tactics are infiltration in the attack, and ambush and counterattack in the defense, are more suitable than light infantry U.S.-style. In this regard, his argument for a context-specific infantry force is in disagreement with Edward N. Luttwak's recommendation for a context-adaptable force.³⁰

In the absence of any coherent overview, two important references which described the employment of light infantry forces by foreign armies are: Edward N. Luttwak, An Historical Analysis and Projection for Army 2000, and John English, On Infantry. While the scope and purpose of these works differ considerably, each provides an excellent historical assessment and convincing argument for the continued need for and utility of light infantry by foreign powers and the United States.

Luttwak in An Historical Analysis and Projection for Army 2000 provides a series of eighteen separate research papers on historical and contemporary "dissimilar" forces: expeditionary, airborne, light infantry, mountain, special-purpose divisions and lesser formations. Using these papers as a starting point, Luttwak derives a series of general conclusions for universal application to

all forces. Although the conclusions are not new, they reaffirm the scenarios in which light forces or heavy forces are best utilized. While recognizing that there are situations in which both forces could be utilized, Luttwak emphasizes on the the two extremes which call for one or the other, but not both types of forces. After establishing the utility of light infantry, Luttwak then describes the need for U.S. light infantry by projecting his infantry utility arguments into areas of U.S. interest and concern. The conclusions follow:³¹

a. Although the heavy division will continue to dominate the high-intensity battlefield on the European continent, there is significant scope for complementary light infantry forces if they are properly trained and employed. Their tactical missions would include:

(1) Defend higher-density, higher-profile and "harder" urbanized terrain/dense forest against enemy forces;

(2) Attack enemy heavy forces in higher-density, higher-profile or "harder" urbanized localities/dense forest areas by infiltration; and

(3) Conduct "cross-frontal" corridor (formed by contiguous forests/woods and urbanized areas) offensive and defensive operations.

b. The heavy division is unsuitable for long-range rapid deployment by air, warfare in extremes of untraffability, warfare in

extremes of terrain compartmentalization, and low-intensity warfare in all circumstances.

c. Heavy division suitability decreases as trafficability and force density decrease and/or as compartmentalization or theater spatial extent increase.

d. Heavy division could be outperformed by light infantry forces in urban warfare, warfare in "medium" mountains and heavily wooded areas, and in expeditionary warfare in large theaters with very low force densities.

From this list of tactical/operational roles for which the heavy forces are either totally unsuitable or very definitely sub-optimal, Luttwak extracts those which require fully-dedicated light forces. Based on foreign armies' experiences with light forces, Luttwak concludes on the type of light infantry the U.S. Army needs, how it should be employed at the tactical through the strategic level, and finally how it should be recruited and trained. Luttwak's recommendations are summarized below:³²

a. To be strategically versatile, the light infantry should be context-adaptable as opposed to context-specific. This lack of terrain specialization and/or theater-strategic specialization can be compensated by careful personnel selection and prolonged initial training. Although the light infantry does not require elite-type soldiers, it may be necessary to train and regard them as quasi-elite

soldiers to achieve the goal of context-adaptability.³³

b. A light infantry branch should be formed. It would include what are commonly referred to as special operations, light infantry, airborne forces, and air assault forces. The present mechanized infantry should be absorbed into the armor or heavy force structure.

Although Luttwak did not analyze the recently created French "Force d'Action Rapide" (FAR), Colonel John A. Barry provided an excellent introduction in his Report No. 01-84 French Light Forces to TRADOC.³⁴ In this report, he explains the differences in force design between FAR and the U.S. Army Light Forces in terms of intended employment and resource levels. Even then, there are many similarities in the military requirements and common problems. In creating this rapidly deployable force, the French built the FAR upon experiences acquired over many years, numerous overseas operations, close familiarity with the European and African terrains, and repeated tradeoffs due to resource constraints. The FAR consists of five different divisions: airborne, marine, alpine, light armor, and airmobile. As a strategic asset, the employment of FAR provides the French national command authority with a responsive military option, well below the nuclear threshold. In addition, it provides the needed time for France's main battle forces to be deployed to their operational areas. Although FAR was created primarily to execute France's foreign policy goals in Africa and Middle East, the light

armor and airmobile divisions will increase France's deployment flexibility, even in Central Europe. An important aspect of FAR, according to Berry is that the FAR is not designed "to win" in all its engagements because FAR's main mission is to deter a potential enemy and should deterrence fails, the FAR is to delay the enemy and provide time for both sides to reflect on the crucial decision of escalating the conflict. This may be the main reason why the organizational concepts, employment plans and missions assigned to FAR are different from that of the U.S. Army Infantry Division (Light).

In another significant contribution, On Infantry, Lieutenant Colonel (then Major) John English, draws his conclusions from the development of the infantry combat arm from 1866 to the present. He discusses in some depth the infantry tactical revolution during World War I and the role played by the infantry arm in German blitzkrieg operations, other facets of World War II, Korea, and the Arab-Israeli wars. Even though he does not differentiate between mechanized, motorized, specialized, or light infantry, he concludes that:

[C]onventional infantry has played a more significant role in the twentieth century warfare than has hitherto generally been realized and that foot soldiers will likely continue to occupy an important place in any future conflict.³⁵

Regardless of terrain, threat, or technological advances, the military planner should assign missions to infantry that capitalize on "the twin pillars of infantry strength" -- the infantryman's technical capability and tactical prowess.³⁶ One historical example English uses to elaborate his conclusion is the Russo-Finnish War of 1939-1940.

Although the Finns were finally budgeoned into submission in February 1940, mainly by mass and the use of modern equipment, Finnish light infantry proved that when properly employed in close, difficult, and inhospitable terrain, the light infantry does have utility in an economy of force capacity and can fight heavier forces to a standstill for an extended period of time with minimal sustainment and/or reinforcement.³⁷

According to English, the heavy reliance on technology by the Western powers since World War II may have resulted in a gross underestimation of the infantryman's role on the modern battlefields. He believes that "the traditional infantry fighting skills applied with cunning and flexibility will still be applicable in the next [conflict]."³⁸ In this regard, his conclusions are very similar to Samuel L. A. Marshall's views in Men Against Fire: The Problem of Battle Command in Future War:

War is always an equation of men and machines. Efficiency comes of a proper balancing of the equation ... there are limits to the uses of the machine in war and that its efficiency as a saver of human lives is according to the efficiency, intelligence, and courage of the relatively few men who must take the final risks of battle.³⁹

Another distinguished writer, Kenneth C. Leuer, in "The AirLand Battle: 1984 to 2001 and Beyond," shares the same view that, "...the infantryman will remain the keystone to a successful effort -- for battles are ultimately decided close-in, where man struggles against man."⁴⁰ In explicit terms, all these writers believe that a properly trained infantryman is, after all, the "best weapon" in the next

conflict.

In summary, during the recent past, foreign armies' experiences with light infantry forces are greater and more diverse than the U.S. experience. Light forces have always existed in countries that can ill-afford heavy forces or have little need for heavy forces because of compartmentalization and terrain difficulties in their areas of operation. Britain and France, two countries with similar problems as U.S. -- a dominating NATO force orientation, a reluctance to maintain a large standing army, and many strategic overseas interests, continue to maintain light expeditionary forces for extra-continental missions. The Soviet Union, which also has extensive global interests and commitments, has partially resolved its strategically deployable force problem by using its elite airborne troops and surrogate forces. Other countries, for example Israel and West Germany, have increased their light infantry forces for use in special operations and as economy of force in conjunction with their predominantly heavy forces.

THE ARMY OF EXCELLENCE INFANTRY DIVISION (LIGHT)

We have, in our review of the future strategic and tactical environments, become aware that the threats to U.S. strategic interests are placing greater strains on its limited resources and that many of these threats to U.S. interests lie not in NATO-Europe but in the Third World. Yet, much of the Army is trained and equipped to fight a war against the Warsaw Pact and remains unsuitable for

rapid deployment to Third World contingencies. During the August 1983 Army Commanders' Conference, the Army Chief of Staff (CSA), realizing that the Army must reorient its force structure to meet the challenges of the changing environment, tasked TRADOC with a mission to improve the Army force structure. The resulting study, known as "The Army of Excellence" (AOE), outlined several ways to accomplish the CSA's guidelines. Since the description of the various AOE initiatives are covered extensively in open literature, this author will not repeat them here.⁴¹ Instead we will focus our attention on the utility of the Infantry Division (Light), one of AOE's division-size force optimized for rapid deployment for contingency missions.

Until recently, many skeptics in the Army have resisted the creation of light forces to respond to the challenges of low-intensity conflict. Why the renewed emphasis on light forces? This author believes that there are two factors which contributed to the increased attention and development of the such light forces.⁴²

The first factor is the need for a more credible conventional deterrent force for worldwide deployment. Lieutenant General William R. Richardson, in a symposium on "The Employment of Non-mechanised Infantry" in Hamburg on 28 April 1980, expresses the genuine concern of the U.S. Army for the capability to deploy its reaction forces worldwide.⁴³ General John A. Wickham, Jr., Chief of Army Staff, clearly has deterrence on his mind when he states in the White Paper 1984 that:

Their [Light Division] rapid deployability will enable them to arrive in a crisis area before a conflict begins. By demonstrating U.S. resolve and capability, they may well prevent the outbreak of war. This is particularly so where low- to mid-intensity conflict threatens, then their presence could decisively affect the outcome. And because of their strategic mobility, these light infantry divisions will help reassure our friends, and allies -- and deter our adversaries.⁴⁴

Beyond deterrence, a second factor is the recognized need for light forces to perform tactical and operational economy of force missions. Wickham believes that light infantry divisions can play an indirectly decisive role as economy of force units at the tactical and operational level by freeing selected armored or mechanized units for decisive roles at tactical, operational, or even strategic levels.⁴⁵ In supporting the CSA's view on the employment of light infantry forces in a mid- to high-intensity battlefield, Robert B. Killebrew in "NATO, Deterrence and Light Divisions", reaffirms that the "key to employment of light forces is the selection of appropriate terrain."⁴⁶ In an earlier article -- David H. Petraeus, "Light Infantry in Europe: Strategic Flexibility and Conventional Deterrence," argues for a balance between heavy and light forces in Europe.⁴⁷ In his assessment of the urban sprawl, terrain compartmentalization, rear battle, and weather within the Central European theater, Petraeus concludes that the light infantry division, coupled with their higher state of training, could provide operational commanders greater tactical flexibility in conducting MOUT and air assault operations as compared against the mechanized infantry division. However, Petraeus does not commit himself to determining whether light infantry

divisions should be permanently stationed in Europe and thus be context-specific. As with Killebrew, Petraeus states that light infantry divisions have utility in Europe and other high-intensity areas and should arrive in the pre-hostilities phase so as to allow operational commanders greater tactical flexibility and economy of force options.

While in agreement with the perceived utility of light units in Central Europe, Lieutenant General John R. Galvin raises the issue of the optimum size of such light units.⁴⁸ The difference between the goal of the White Paper and the planned employment of light infantry units by USAREUR commanders is one of organization. During his talk at the Infantry Commanders' Conference at Fort Benning in March 1984, Galvin begins his tactical discussions with the assumption that the corps commander will have the authority to break a light infantry division into sub-divisional units when it is deployed to Europe. The issue raised here is not whether the Army needs light infantry, but on how the light infantry units should be organized for combat -- in division or brigade. In an article on force structure design, James M. Dubik and James J. Montano propose that the brigade should replace the division as the basic interchangeable part of the Army force structure. The authors argue that by forming a variety of separate brigades the Army could better tailor its divisions to specific missions and terrain. Clayton R. Newell, supports the use of brigades and smaller units to augment heavy forces stationed in

Europe instead of committing light infantry divisions as integral units, but cautions that, "it will destroy the unit's cohesiveness."⁴⁹

As a follow-up to his previous study, An Historical Analysis and Projection for Army 2000, Edward N. Luttwak, besides explaining how the light infantry division could enhance the National Command Authority (NCA)'s strategic deployment options, incorporates all the above roles into the Strategic Utility of U.S. Light Divisions, A Systematic Evaluation, a TRADOC-sponsored study. In this study, Luttwak develops four possible scenarios that could utilize light infantry divisions. These missions include:⁵⁰

- a. Defending in a mature theater, for example NATO, as either a forward-deployed or reinforcing division;
- b. Fighting in desert or arid mountainous terrain such as those found in Southwest Asia;
- c. Executing peacetime contingencies such as intervention (coup de main), international rescue, peacekeeping, anti-terrorism; and
- d. Conducting counterinsurgency operations, military assistance, or advisory roles in low-intensity conflict theaters such as Central America.

Although many writers expressed reservations on the concept and utility of light infantry divisions, this author chooses to list only their main arguments below:⁵¹

a. The strategic versatility of the Infantry Division (Light) may negate its operational capability. Simply stated, the problem with the Infantry Division (Light) is that it may be both a specialty force inappropriate to all but a narrow range of scenarios and an all-purpose force that cannot respond to specific crises.

b. The Infantry Division (Light) is optimally designed for operations at the lower end of the conflict spectrum, but there is no reason to assume that its use will or can be limited to confronting lightly armed opponents. There are numerous situations in which this may not be the case. The opposing forces may well be heavily armed with sophisticated weapons. The Infantry Division (Light), armed with light infantry weapons, antitank weapons, mortars, 105mm light guns, limited 155mm M198 howitzers, 20mm PIVADS and STINGER antiaircraft missiles, may not be able hold off the enemy, protect its lodgement area, or its resupply points.

c. Rapid intervention forces such as the Infantry Division (Light) must be designed to operate in varied combat situations. Besides firepower, the force must have sufficient tactical mobility, sustainability and survivability. The Infantry Division (Light) is found lacking in all these aspects.

SUMMARY

A recapitulation of the major findings from the literature survey in this chapter follows:

a. Strategic and tactical environments. General conclusions from earlier research into the nature of future conflicts indicate that:

(1) The nuclear and conventional balance in Europe is relatively stable, implying that a general war in NATO-Europe is highly improbable and that the probability of direct U.S.-USSR confrontation elsewhere is low.

(2) In the Third World, by contrast, the probability of conflict is high, although such conflict would be mid- or low-intensity in character.

(3) So far the U.S. has a poor understanding of and is otherwise ill-prepared to deal with low-intensity conflict.

(4) Hence, the U.S. needs to develop a military strategy that could, besides deterring the Warsaw Pact in NATO-Europe, neutralize low-intensity conflict or at least ameliorate its adverse effect.

b. U.S. experience with light infantry. Historically the U.S. Army has somewhat limited experience in designing and employing light infantry division-type forces. The earlier light infantry

forces have the following characteristics:

(1) An all-purpose infantry deemed suitable for world-wide generalized deployment;

(2) Regular infantry made light, by simply reducing vehicular assets and equipping it with lighter artillery for greater strategic mobility; and

(3) Organized, and equipped for positional set-piece combat, though requiring augmentation for sustained combat.

c. Foreign armies' experiences with light infantry. Foreign armies' experiences in the designing and employment of light infantry forces far exceed that of the United States. Most foreign light forces are usually of brigade size, highly elite, context-specific, and unburdened by overseas constraint. Besides its primary role as an interventionary force, light infantry is used in special operations and as an economy of force in conjunction with heavier forces. The infantryman, in many writers' view, is still the "best weapon" in the next conflict.

d. The Army of Excellence Infantry Division (Light). The Infantry Division (Light) has utility within the U.S. Army force structure. It was designed primarily as a conventional deterrent force, capable of worldwide deployment. Although there is no argument as to its ability to perform tactical and operational economy of force

missions, there is disagreement as to its optimum size -- in brigade-equivalent or division-size. In general, some of the missions for the light forces include:

(1) Defending in a mature theater as either a forward-deployed or reinforcing division;

(2) Fighting in close and compartmentalized terrain or low force density areas of operation;

(3) Executing peacetime contingencies such as intervention (coup de main), international rescue, peacekeeping, anti-terrorism; and

(4) Conducting counterinsurgency operations, military assistance, or advisory roles in low-intensity theaters.

In conclusion, then, the main arguments against the Infantry Division (Light) center around its strategic versatility, its "lightness" in weaponry, the lack of tactical mobility, sustainability, and survivability.

ENDNOTES

The author would like to acknowledge the contributions of Major Joel J. Snow, U.S. Army and Major Richard R. Babbitt, U.S. Army to this chapter. Extensive references are made to Major Joel J. Snow, "United States Army Airborne Forces: An Instrument of Land Power, 1990-2000", M.M.A.S. Thesis, 1984 and Major Richard R. Babbitt, "The Light Infantry Division -- How Many Are Needed?", M.M.A.S. Thesis, 1985. The author is alone responsible for the views and conclusions expressed here, which may not coincide with those of the contributors.

¹Lieutenant General Fred K. Mahaffey, "Deterring Threats: Landpower is Decisive Combat Element," Army, December 1984: 62. When making this statement in the 1984 AUSA Annual Meeting, General Mahaffey, then Deputy Chief of Staff for Operations and Plans (DCSOPS), believes that the light infantry divisions will have strategic utility in today's world and would represent the principal response to an increased U.S. force balance and deployment flexibility.

²In a series of seminars co-sponsored by the Assistant Secretary of Defense for International Security Affairs and the National Defense University, a distinguished group of panelists look at the future of conflict, to the end of the century, and explore the inherent risks to the U.S. in that future. A record of these meetings is found in Captain John J. McIntyre, (ed.), The Future of Conflict (Washington, DC: National Defense University Press, 1979). Another comprehensive study is William J. Taylor, Jr., The Future of Conflict: U.S. Interests (Washington, DC: Praeger with The Center for Strategic and International Studies, 1983).

³William J. Taylor, Jr., "Introduction: Forecasting as a Policy Instrument," in Robert M. Kupperman and William J. Taylor Jr., (eds.), Strategic Requirements for the Army to the Year 2000 (Lexington, MA: Lexington Books, 1984): 1.

⁴Robert H. Kupperman and Associates, Inc., Low-Intensity Conflict, Vol 1 -- Main Report. (TRADOC Contract No. DADT 60-83-C-0002, 30 June 1983): 7-8.

⁵One introductory guide is Olaf Helmer, Looking Forward: A Guide to Futures Research (London: SAGE Publications, Inc., 1983). See also Taylor, "Introduction: Forecasting as a Policy Instrument," loc. cit.,: 1-3.

⁶Karl von Clausewitz, On War, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1975): 7.

⁷William J. Taylor, Jr., "Future Trends and Phenomena: Impact on the Army," in Robert H. Kupperman and William J. Taylor, Jr., loc. cit.,: 66. In this article, Taylor concludes there is a need for a military strategy in order to develop the necessary capabilities for the U.S. Army. This can only be achieved with proper politico-military guidance.

⁸Charles Doe, "Nunn Calls for Overhaul of Strategy," Army Times, (18 April 1983): 23-24. In the address, Senator Nunn presented three alternatives for meeting U.S. global military commitments in the future. The first two, which he described as unrealistic, were to cut back on the defense of U.S. vital interests abroad and to spend huge additional funds for additional forces. The third alternative is to re-evaluate the existing U.S. military strategy, a strategy that has for nearly a decade been preoccupied with the decisive battle in Central Europe. William J. Olson is duly critical about the apparent lack of a viable U.S. military strategy when he observes that, "most of what passes for strategy is ad hoc response to crisis or the continuation of tradition and older rationales." William J. Olson, "Light Force Initiative," Military Review (June 1985): 5-6.

⁹William J. Taylor Jr., and Paul R. Ingholt, "Manpower Issues for the 1990s" in Kupperman and Taylor, loc. cit.,: 144-146.

¹⁰The Global 2000 Report to the President (Washington, DC: US Government Printing Office, Vol I and II - 1980; Vol III - 1981). The report was commissioned by President Jimmy Carter in 1977 and published by the US Government Printing Office in three volumes in late 1980 and early 1981.

¹¹Lieutenant Colonel John G. Wilcox, "Military Implications of the Global 2000 Report," Military Review, (August 1981): 30-38. In this article, Wilcox uses his analysis on the population and age structure, international migration, and urbanization in lesser-developed countries to derive some implications for the Army.

¹²Robert H. Kupperman and Associates, Inc., loc. cit.: 7-8.

¹³Wilcox, loc. cit.: 37.

¹⁴Ibid.: 37.

¹⁵George H. Heilmeyer, "Military Technology Policy: 2001." Defense Science 2001+ (August 1983): 20-22.

¹⁶The standard work on the Continental Army of the Revolution and Regular Army of the Civil War is Russell F. Weigley, History of the United States Army (Bloomington: Indiana University Press, 1984). written with access to official documents. See also Steven L. Canby, Classic Light Infantry and New Technology (DARPA Contract No. MDA 930-81-C-0207, December 1982).

¹⁷The best and most detailed scholarly study of U.S. experimental "light divisions" is in Kent R. Greenfield, Robert R. Palmer, and Bell I. Wiley, United States Army in World War II: The Army Ground Forces: The Organization of Ground Combat Troops (Washington: US Government Printing Office, 1947): 336-350.

¹⁸Weigley, loc. cit.: 470. The theater commanders were rather dubious about the light divisions from the start, and maneuvers of the 71st and 89th Light Divisions in California confirmed their doubts; the divisions, understrength already, were incapable of sustaining themselves in fighting condition.

¹⁹Radio (S) CM-1n-550, Algiers to War, 1 Jun 43. WD Classified Message Center. Cited in Greenfield, Palmer, and Wiley, loc. cit.: 344.

²⁰Memo (S) of Colonel F. D. Merrill for Chief, Tr Sec, Logistics Gp, OPD. 22 May 43. Written on OPD letterhead, signed "For Lt Gen Stilwell." OPD Records, 320.2 SecIX (9). Ibid.: 344.

21WD Memo (S) WD6CT 320.2 Gen (5-21-43) for CofS USA, 21 May 43, sub: Light Divs. AGO Records 322 (21 May 43) (22) (S). Ibid.,: 345. Although General McNair believed the attitude of Southwest Pacific Area Command to be short-sighted and wasteful, he advised against further activation of light divisions.

22(1) Memo (S) of CofS AGF for CGAGF, 24 Mar 43, sub: Summary of Statements by Gen Sutherland. 320.2/149 (PTD) (S). (2) WD Memo (S) WD6CT 320.2 Gen (5-21-43) for CofS USA, 21 May 43, sub: Light Divs. AGO Records 322 (21 May 43) (22) (S). (3) HQ USAF in Far East letter (S) to TAG through C-in-C, SWPA, 2 Oct 43. 322/2 (Divs) (S). Ibid.,: 346.

23There are several books which discussed the capabilities and limitations of the various U.S. Army divisions during this period. Although the focus is on doctrine, the best work is Robert Doughty's The Evolution of U.S. Army Tactical Doctrine, 1946-1976. It presents the relationship between strategic policy and organizational design without getting too involved with design details. In another excellent work, Evolution of the U.S. Army Division: 1939-1968, Virgil Ney traces the development of the divisions. To complete the gap between 1968 and Army of Excellence, the reader is referred to TRADOC's A History of Army 86, Volumes I and II by John L. Romjue.

24Weigley, loc. cit.,: 542-547.

25Ibid.,: 574-577.

26Ibid.,: 589-591.

27John L. Romjue, A History of Army 86, Volume II: The Development of the Light Division, The Corps, and Echelons Above Corps (November 1979 to December 1980) (Fort Monroe, VA: Historical Office, OCS, TRADOC, December 1981): 46-48.

28Canby, loc. cit.,: Executive Summary.

29Major Richard R. Babbitt, "The Light Infantry Division -- How Many Are Needed?" M.M.A.S. Thesis (Fort Leavenworth: USACGSC, 1985): 30-37.

³⁰Canby, loc. cit.,: Executive Summary.

³¹The conclusions summarized here are found in Edward N. Luttwak, An Historical Analysis and Projection for Army 2000, Part II: 20-22.

³²Ibid.,: 33, 80. In recommending the formation of a light infantry branch, Luttwak has restated a force orientation and force structure which are not very different from other armies, for example the British Army.

³³This issue of context-adaptability versus context-specialization has been debated in the past by many distinguished writers. William W. Kaufmann, Planning Conventional Forces, 1950-1980 (Washington, DC: The Brookings Institution, 1982), William W. Kaufmann presents the two sides of the issue very well. The problem with the Infantry Division (Light), according to Olson, is that it may be both a specialty force inappropriate to all but a narrow range of scenarios and an all-purpose force that cannot respond to specific situations. Olson, loc. cit.,: 6.

³⁴Colonel John A. Berry, TRADOC Report No. 01-84 French Light Forces (Paris: TRADOC Liaison Office to French War College, 15 February 1984).

³⁵John A. English, On Infantry (New York, Praeger, 1981): 217.

³⁶Ibid.,: 217.

³⁷Ibid.,: 91.

³⁸Lieutenant Colonel John A. English, "Thinking about Infantry," Infantry 74 (November-December 1984): 25. English summarizes his thoughts on the importance of infantrymen with a quotation by Shelford Bidwell: "The more complex the weapon system the greater the mathematical probability, therefore, of wrecking it, not by using a super counter-weapon, but by reverting to the use of a few skilled raiders armed with nothing but rifle, grenade, and explosive charge."

³⁹Samuel L. A. Marshall, Men Against Fire: The Problem of Battle Command in Future War (Gloucester: Peter Smith, 1978): 204.

⁴⁰Kenneth C. Leuer, "The AirLand Battle: 1984 to 2001 and Beyond," Defense Science 2001+ 2 (December 1983): 44.

⁴¹For an overview of the light infantry division concept, the reader is referred to Operational Concept for the Infantry Division (Light) (Fort Leavenworth, KS: CDD, CACDA, 15 March 1984), FC 100-1 The Army of Excellence (Fort Leavenworth, KS: FDD, CACDA, 1 September 1984) and The Army of Excellence Final Report: The Light Infantry Division (Fort Leavenworth, KS: FDD, CACDA, 1 October 1984).

⁴²These two factors have been the focal discussion points in all the current documents and articles emanating from the Department of Army and open literature. However, in "Heavy-Light Forces: Assessing the Challenge," Infantry (January-February 1985): 13-14, James B. Motley presents four factors which account to the increased attention on the light forces: (1) One is the steady proliferation of U.S. commitments throughout the Third World, which requires forces with greater strategic and tactical utility; (2) A principal conclusion of Robert H. Kupperman and William J. Taylor, Jr., (eds.) Strategic Requirements for the Army for the Year 2000, that low-intensity conflict -- psychological warfare, high technology terrorism, Soviet-supported revolutions, urban guerrilla warfare, and more conventional proxy wars -- will constitute the greatest challenge to the Army during the 1990s; (3) The success of the light forces in the U.S. quasicommando actions in Grenada; (4) SECDEF's statement in his FY 1985 Annual Report to the Congress that "the high priority we have assigned to Special Operations Forces revitalization reflects our recognition that low-level conflict...will pose the threat we are most likely to counter throughout the end of this century."

⁴³Lieutenant General William R. Richardson, "Light Infantry," in the report on "The Employment of Non-mechanised Infantry," RUSI (December 1980): 64-67.

⁴⁴General John A. Wickham, Jr., White Paper 1984: Light Infantry Divisions: 1. The White Paper is the official document endorsing the AOE Infantry Division (Light) concept.

⁴⁵Ibid.,: 1-2.

⁴⁶Lieutenant Colonel Robert B. Killebrew, "NATO, Deterrence and Light Divisions," Military Review (May 1985): 10. To elaborate on his statement, Killebrew quotes from Lieutenant General John R. Galvin, "Heavy-Light Forces and the NATO Mission," Infantry (July-August 1984) and Robert Komer, "Is Conventional Defense of Europe Feasible?" Naval War College Review (September-October 1982), stating that the urban and forested areas (over 40%) in Germany are ideal terrains for 'straight leg' infantry units.

⁴⁷Captain David H. Petraeus, "Light Infantry in Europe: Strategic Flexibility and Conventional Deterrence," Military Review 64 (December 1984): 35-55.

⁴⁸Galvin, loc. cit.,: 10-14.

⁴⁹Major James M. Dubik and Major James J. Montano, "FM 100-5: Conceptual Models and Force Design," Military Review (July 1984): 16-26. Lieutenant Colonel Clayton R. Newell, "Heavy-Light Forces: Divisions or Brigades?" Infantry (January-February 1985): 12-13.

⁵⁰Edward N. Luttwak, Strategic Utility of the U.S. Light Divisions, A Systematic Evaluation (TRADOC Contract No. DABT 60-84-C-0099, 1 August 1985).

⁵¹There are many articles which question the concept and utility of the Infantry Division (Light). William J. Olson, "Light Forces Initiative," Military Review (June 1985), which this author refers to extensively is an excellent article. See also Michael R. Gordon, "The Charge of the Light Infantry -- Army Plans Forces for Third World Conflicts," National Journal (19 May 1984); Edwin W. Besch, "Are Our Light Divisions Too Light?" Army (February 1985); Tony Velocci, "The New Light Division: Will It Work?" National Defense (November 1984).

CHAPTER FOUR

THE THREAT

To expect the Soviet leaders to restrain themselves from exploiting circumstances they conceive to be favorable is to misread history.¹

Henry A. Kissinger

INTRODUCTION

The Soviet invasion of Afghanistan in December 1979, following closely on the Soviet-Cuban intervention in Angola and Ethiopia, coupled with the vast improvements in Soviet force projection capabilities, underline the importance of resolving Third World contingencies for U.S. national policy and defense planning. Such planning requires an understanding of Soviet policy and practice toward Third World conflicts.

In an attempt to assess the threat to U.S. interests in the 1990s, this chapter will examine briefly the outcomes of past Soviet involvement in Third World conflicts, extrapolate the trends to include future Soviet behavior, illuminate the political-military

conditions that encourage Soviet intervention, and explore some possible means of force projection, namely, using its improved airlift capability to transport the airborne forces and proxies.

OUTCOME OF SOVIET INVOLVEMENT IN THIRD WORLD CONFLICTS

In the postwar era, U.S. foreign policy has often been criticized for typecasting all Third World conflicts as directly related to the central East-West ideological struggle. U.S. policymakers are often not acquainted with the local causes, nuances, and dynamics of the specific conflicts. In contrast, the Soviet leadership might well be accused of the first shortcoming, but never of the second. One clear indication of the care taken by the Soviet leadership to understand the issues and the local balance of forces involved in each conflict was the fact that USSR did not back a losing side in most cases. Except for the catastrophic defeat of the Arabs in June 1967, the USSR has rarely been caught supporting a client who has been defeated. It is difficult to suppose that this record of military success by Soviet-backed clients came about solely because of the USSR's military power or the genius of its leadership. It would appear that the USSR has chosen the conflicts to become involved in with considerable care, deliberately avoiding defeat which would in turn diminished Soviet prestige and influence -- was probable. This would suggest that USSR has devoted considerable research and intelligence-gathering resources to studying and comprehending the dynamics of specific disputes.²

On the tactical level, the Soviet Union's successes in local conflicts must be attributed largely to its capacity to deliver arms rapidly and in the quantities necessary to fulfill the battlefield requirements of its clients. Adroit use of air transport to transfer arms to clients who needed them quickly has also been a particularly noteworthy aspect of Soviet operations. The role of Soviet advisers in servicing and training was undoubtedly also a critical factor in the conflicts. Another important contribution was the use of Cuban troops, as shown in its victory over the MPLA in Angola and that of the Ethiopia-Somalia War.³

On the strategic level, Soviet successes in the 1970s -- Angola, Ethiopia, Cambodia, and Afghanistan provided the USSR with opportunities for constructing military facilities in strategic locations and opportunities for exerting political influence on neighboring countries. Regardless of what gains or setbacks the USSR has experienced in other countries and regions, the simple fact of its involvement in the Third World has contributed to a weakening of U.S. influence there. Another strategic aspect of Soviet military involvement in Third World conflicts concerns the implications of Soviet activities on the evolution of the postwar international order. In the last forty years, the Soviet Union, with increasing capability and confidence, assumed the role of a challenging power within that order. The USSR sought to erode the preeminence of the U.S. within the global system of nation states, persistently pursuing the goal of

transforming the structure of international relations in its own favor. The Third World has proved to be a promising venue for the pursuit of this aim, and consequently many of the periodic crises that troubled the U.S.-USSR relationship following World War II were centered in Asia, Africa, Middle East, or Central America. The USSR's military activities in those regions, particularly its involvement in local conflicts, constituted one of the more crucial aspects of its overall challenge to the U.S.⁴

Bruce Porter, by studying closely the USSR's policy and behavior in five conflicts -- Yemeni Civil War, Nigerian Civil War, Yom Kippur War, Angolan Civil War, and the Ogaden War, concludes that the general trend has been one of increasing flexibility of policy combined with increasing magnitude of scale and latitude of military aid rendered. Insofar as the international order is defined by an unwritten "set of rules" -- thresholds, precedents, spheres of influence, lines demarcating acceptable and unacceptable behavior, trip-wires and the like -- the USSR's military activities in the Third World have been a series of incremental encroachments on those rules. He further adds that a precedent, once set, has tended to become the norm in future conflicts. Table 4-1 is used to illustrate this trend. By advancing its interests incrementally and by carefully choosing the places and times of its involvement in Third World conflicts, the Soviet Union has substantially increased its latitude of action on the world stage. What the USSR achieved in the Third World between 1973

PRECEDENT	YEMEN-ADEN	INDONESIA	CONGO	LAOS	YEMEN	NIGERIAN CIVIL WAR	WAR OF ATTRITION	VIETNAM	YOM KIPPUR WAR	ANGOLA	OGADEN WAR	AFGHANISTAN
SOVIET GROUND TROOPS												X
SOVIET COMMANDERS											X	X
CUBAN TROOPS										X	X	X
MASSIVE SCALE							X	X	X	X	X	X
SOVIETS IN COMBAT ROLES					X		X		X		X	X
SOVIET ADVISERS IN WAR ZONE					X	?	X	X	X	?	X	X
DIRECT SUPPLY OF TROOPS ON THE FRONT				X	X		X	X	X	X	X	X
TRANSPORT OF TROOPS			X	?	X		X		X	X	X	X
ARMS SHIPMENT	X	X	X	X	X	X	X	X	X	X	X	X

TABLE 4-1 THE TRENDS OF SOVIET MILITARY INVOLVEMENT IN THIRD WORLD CONFLICTS

SOURCE: BRUCE D. PORTER, THE USSR IN THIRD WORLD CONFLICTS

and 1980 would have been totally unacceptable to the U.S. only a few years earlier; two decades earlier it might have led to general war.⁵

In brief, the Soviet leadership has not only been ascending up on an experience curve but also ascending up a confidence curve. While retaining its quantitative superiority in manpower and material, the Soviet armed forces closed the "qualitative" gap by making substantial improvements in its weaponry and equipment. The combination of growing experience, increased confidence, and capabilities has been the key to Soviet successes in most Third World conflicts.

FUTURE SOVIET INVOLVEMENT IN THE THIRD WORLD

Having reviewed the outcomes of past Soviet involvement in Third World conflicts, we shall now proceed to extrapolate future Soviet involvement and begin by reviewing some of the trends that may account for increased activism and influence in the Third World. It is also important for us not to exaggerate the Soviet Union's global ambitions nor view them with unwarranted alarm. After all, as much as the Soviet leaders may veil their actions behind an ideological cloak of legitimacy, potential constraints on greater Soviet activism do exist and are real.⁶ In Soviet Policy and Practice toward Third World Conflicts, RAND researchers Stephen Hosmer and Thomas Wolfe outline the following trends which suggest increased Soviet involvement in the Third World:⁷

a. Increased force projection capabilities. It is not possible for a country to conduct global diplomacy without the military capabilities necessary to project its power for considerable distances beyond its borders. Although the Soviet Union had the largest standing army in Europe after World War II, its armed forces though formidable, did not possess sufficient power projection capability to allow the USSR to influence political and military events in countries that were not contiguous or near its borders. Possession of nuclear weapons made the USSR a superpower, but its limited power projection capability meant that, unlike the U.S., it was not a global power. Until the late 1960s and early 1970s, the USSR was lacking in those forces suitable for versatile and rapid projection of power abroad. By the 1970s, however, nearly two decades of massive investment in "rapid deployable forces" began to yield results. It enabled the Soviet Union to begin acting as a truly global power on the world stage. The USSR's growing power projection capability made it feasible to undertake massive involvements in the Yom Kippur War, the Angolan Civil War, the Ogaden War, and its invasion of Afghanistan. The Soviet achievement should not be underestimated, for the national resources necessary to maintain such a power projection capability are immense. It requires large stocks of surplus weapons for client states, a versatile out-of-area blue-water navy that can function effectively in distant oceans, substantial sealift and airlift capability, foreign-based logistics and support facilities from which to stage its operations, and

thousands of well-trained troops and technical advisers who can be sent abroad on short notice, if necessary. In this chapter we will however restrict our discussion of Soviet force projection capabilities to its use of airborne troops and proxies in local conflicts, which this author believes would have a direct impact on the mission accomplishment of the Infantry Division (Light). The discussion of Soviet blue-water navy can be found in many excellent literatures.⁸

b. Changes in the correlation of forces. Significant improvements in Soviet force projection capabilities, together with changes in the strategic and theater military balances and the other factors affecting the worldwide correlation of forces, represent trends that may alter Soviet risk perceptions and lead to more assertive behavior in the Third World. The USSR believes that the overall correlation of forces is changing in its favor, and a major imponderable is whether the USSR will continue to believe and, more important, increasingly act on this assumption. The USSR's behaviour in certain past crises has been constrained by its perceptions of the prevailing U.S.-USSR military balance and by the concern that more aggressive actions on the USSR's part might lead to an unwanted confrontation with the U.S. However, one cannot be certain that Soviet restraint and caution will prevail in the future, particularly if the Soviets were to believe that changes in the strategic and theater military balances to their advantage would serve to constrain U.S. response options and provide the Soviets an umbrella for more

assertive actions in the Third World.⁹

c. Rising radicalism and persistent Third World instabilities. The rising radicalism evident in various Third World countries, although not necessarily created by the Soviets, constitutes a political trend the USSR can exploit to the U.S. disadvantage. The persistence of endemic political instabilities, ethnic and social conflicts, and grievous economic and population pressures in Third World countries, which we discussed in Chapter 3, also serve to breed continued opportunities for Soviet exploitation and expansion.¹⁰

Possible Patterns of Future Soviet Behavior

Any discussion of future Soviet behavior is, in many aspects, a speculative one. This is because the USSR's actions will be dependent upon its calculations of the possible benefits and risks of differing situations and by the nature of the opportunities it will confront. Following his analysis of the Ogaden War, Porter believes that despite the risks involved, Soviet leaders would not "pass up in the name of prudence" the opportunity presented by any conflict.¹¹ This may not be altogether true in all cases when we take into consideration Soviet determination to avoid any direct confrontation with the U.S. beyond the Soviet sphere of influence. One possibility which we are likely to assume is that the basic behavior patterns of the Soviet in the past will continue, much along well-established

lines. In any future event, Soviet behavior may be expected to exhibit the same elements of assertive opportunism combined with caution as before and to remain low profile, where possible. By assuming that these past patterns would continue in the future, Hosmer and Wolfe suggest the following circumstances in which the USSR would intervene:¹²

a. In response to a request from a local government or some arguably legitimate (in Third World eyes) political entity;

b. Perceptions that the risks of direct confrontation with the U.S. would be low because of a lack of vital U.S. interests or commitments, existing political constraints, or an absence of viable U.S. response options;

c. Calculations that the USSR can hedge or tailor its commitment and involvement so as to keep the initial risks low and controllable in situations where U.S. interests are engaged and the U.S. response is uncertain;

d. The Soviets have had the opportunity to conduct on-the-spot assessments of the local balance of forces and prevailing battlefield situation and has determined that outside intervention has a good prospect of achieving immediate military objectives;

e. The Soviets can keep its own direct combat role limited or circumspect, in so doing reduce the risks of adverse reactions from Western and Third World countries and avoid creating a justification

for possible counteraction by the U.S.; and

f. The USSR has access to the necessary base and transit infrastructure to support its intervention logistically.

FORCE PROJECTION MEANS

In the past, the Soviet Union has been extremely cautious about employing its armed forces outside its own borders, or since World War II, outside the perimeter of Warsaw Pact countries. The invasion of Afghanistan in 1979, marked the first time regular Soviet tactical formations were deployed and committed to combat outside a bloc country not assigned to their sphere of influence by the Yalta and Potsdam agreements. In so doing, the Soviets have "unshackled the restraint" and revealed a new capability to deploy large forces across vast distances and within time spans previously thought unattainable.¹³ Drew Middleton, the military correspondent of The New York Times, put the point succinctly:

The primary lesson for the United States and its allies in the Soviet Union's swift airborne movement into Afghanistan is that the Russians have the ability to move significant numbers of troops in a relatively short time into situations they consider critical to their policies.¹⁴

As with most Soviet postwar military developments, the truth is that there has been no sudden expansion of Soviet airlift capabilities. Rather, progress in this area has been incremental, sustained, and largely unaccompanied by the usual attention which the Western media devote to Soviet military hardware. Kenneth Allard

observes that, "most students of Soviet military affairs have concentrated their attention in other areas when considering the projection of power" rather than the developments of Soviet airlift and airborne capabilities. The expansion of Soviet naval capabilities under Admiral Sergei Gorshkov has monopolized most of this attention. Airlift and airborne capabilities have generally been treated as an afterthought and are considered under "other interventionary forces."¹⁵

Since 1979, these "other interventionary forces" have received more attention from those strategic planners who have, in the past, associated Soviet airborne forces with conventional ground operations and failed to comprehend its strategic-operational capability. Despite the risks associated with such operations on the modern battlefield, Soviet tactics continue to emphasize the use of airborne assaults, or desants, against both tactical and strategic objectives in coordination with blitzkrieg attacks by large formations of regular ground forces. The division of Soviet airborne forces into airborne and air assault units in 1976 reflects the primacy of these conventional missions; however, the Soviets have also prepared the airborne troops to perform as an intervention force at a considerable distance from USSR or Warsaw Pact territory. It is this capability of the airborne troops -- the Vozdushno-Desantnyye Voyska or VDV -- which cause many Western analysts to revise their concepts of the nature, quality, and extent of Soviet strategic-operational reach in the 1990s.¹⁶

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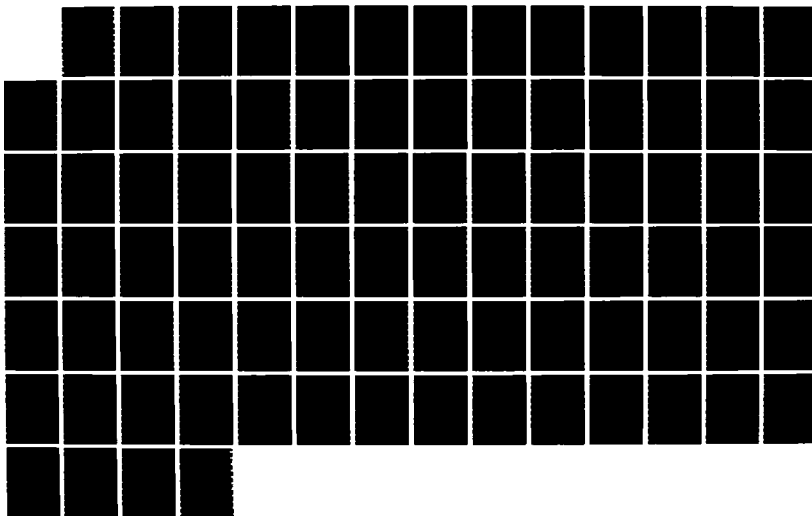
EQUIPPING THE INFANTRY DIVISION (LIGHT) IN THE 1990S
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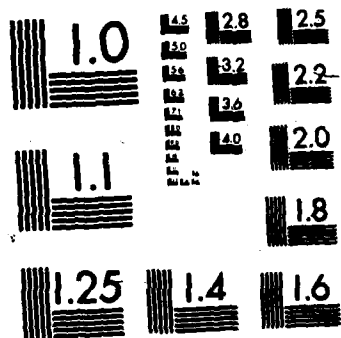
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In the following section we will briefly review the historical development of Soviet airborne forces, how they are used in conjunction with the air transport capabilities for power projection, and their weapons and equipment.

Soviet Airborne Forces

After World War II, the Soviet Union maintained as many as ten airborne divisions as an adjunct to its increasingly mechanized army. In The Soviet Airborne Experience, Lieutenant Colonel David M. Glantz attributes this auxiliary role to Stalin's skepticism of airborne operations.¹⁷ These airborne divisions continued to be limited in effectiveness by inadequate air transport capabilities.¹⁸ According to P. Pavlenko:

[Airborne forces would be] landing in limited regions, securing and holding objectives until the arrival of main front force. Missions were thus passive. The depth of landings did not exceed 20 to 100 kilometers, and the length of independent combat action was comparatively short. Air transport of that time, the IL-12 and IL-14 aircraft were able to land only personnel with light weapons, including 82-mm mortars.¹⁹

Consequently, the airborne units were capable of mounting only battalion-sized tactical desants, called for by Soviet doctrine, principally to achieve surprise and shock effect in attacks against enemy rear-area targets, but they were definitely incapable of executing a major power projection mission. Even at the tactical level, the likelihood for these airborne units being used in actual airborne warfare would remain remote until Stalin's doubts as to their effectiveness had faded and airborne forces had an efficient airborne

transport to the battlefield and had equipment to ensure survival in battle. Sophisticated theory, elaboration of missions, and organizational adjustments would develop in tandem with technological changes -- changes that would soon occur and that would result in a rejuvenation of airborne warfare theory and practice.²⁰

Several important factors merged in the mid-1950s to produce this rejuvenation. Stalin's death in 1953 removed a major obstacle in the path to reform the airborne organization. Another factor was the "recognition of nuclear weapons and the possibility of surprise engendered by initial wartime use of those weapons triggered by this basic revision of military theory and reorganization."²¹ In this context, airborne forces were, in V. Margelov's words, "...considered a combat means able to exploit effectively and quickly the results of nuclear strikes and completely destroy the enemy. Moreover, airborne forces could undertake new missions, such as destroying enemy nuclear delivery means, bases, and warehouses for weapons,..."²²

The year 1956 was marked by the introduction of a new transport aircraft, the Antonov-8 and the maiden flight of the Antonov-12 CUB transport plane, similar to the U.S. C-130 HERCULES; the AN-12 CUB entered service three years later. Its payload of 20 tons and its range of 1,400 kilometers gave the Soviet transport air force for the first time a mid-range cargo aircraft, one which quickly became the machine for transporting paratroops. The Soviets made significant improvements in equipment development during the 1960s.

The Soviets provided the airborne troops with more automatic weapons, tactical transport vehicles, light armored vehicles (PT-76), 120mm mortars and 122mm (M-30) howitzers to supplement the 82mm mortars, self-propelled antitank guns such as the ASU-57 and later the SU-85 (1962). Although the airborne units had improved firepower, their mobility was limited in that personnel still advanced to combat on foot.²³

Nevertheless, these new capabilities were clearly evident when Soviet airborne forces spearheaded the invasion of Czechoslovakia in 1968. Although their landings were unopposed, the airborne forces were credited with a well-executed operation. For Western military analysts, the invasion of Czechoslovakia demonstrated the USSR's willingness to use its civilian air transports for force projection purposes. In this instance, two Soviet divisions were ferried by Aeroflot aircrafts to a single airfield in less than 18 hours.²⁴

By the early 1970s, Soviet airborne forces had given a new credibility to the previously nascent ability of the USSR to project power. The transport air force, the Voyenno-Transportnaya Aviatsiya or VTA, had increased its inventory of AN-12 CUB transports and was beginning to acquire the latest in the Antonov transport series, the AN-22 COCK. A huge turbo-prop aircraft, the AN-22 COCK is a strategic transport with a payload of 80 tons and an unrefuelled range of more than 4,200 kilometers. This new Soviet airlift capability was critical in assisting the rapid resupply of both Egypt and Syria

during the Yom Kippur War in October 1973.

As a result of military policy changes in the early 1970s, the airborne units received heavier weapons and increased manpower. In qualitative terms, the combat capability was improved with the introduction of the Boevaia Mashina Desantnaya or BMD, an amphibious light tank specifically designed for the airborne mission.²⁵ The BMD resolves two major problems of airborne employment: the limited mobility of the airborne infantry, once landed, and the vulnerability of such troops to larger, better-armed reaction force. Although armored vehicles such as the ASU-57 had long been a part of the airborne inventory, the BMD substantially increased the tactical firepower and mobility of the Soviet airborne division. It is equipped with the SAGGER antitank missile launcher and a 73-mm main gun, and thus can engage armored targets at ranges of up to 3000 meters. The BMD also mounts two machine guns and can carry, in addition to its five-man crew, up to six paratroopers, who are able to engage targets through firing ports while the vehicle is on the move. The BMD has a speed of at least 40 mph overland and 6 mph in water. Its effectiveness is not just a function of its speed and armament. With a weight of just under nine tons combat-loaded, it can easily be airlifted in significant quantities by both medium and strategic air transports. Other equipment improvements include the 140-mm multiple rocket launcher, the BRDM reconnaissance vehicle, the ASU-85 assault gun, new ATGMs, and new antiaircraft guns and missiles.²⁶

Meanwhile, the VTA continued to keep pace with its modernization program with the development of the Ilyushin-76 jet transport aircraft. The IL-76 CANDID, a four-engine jet transport with a payload of 40 tons, provided the Soviet Union with a strategic airlift capability. In 1979, the USSR undertook the development of another new transport plane, the CONDOR, with a capacity comparable to the U.S. C-5A GALAXY. Its estimated cargo capacity will be approximately 125 tons and a range of 3,400 kilometers. In addition to making possible rapid, large-scale weapon shipments to distant regions of the globe, the Soviet air transport force gives the USSR a credible instrument for intervention with airborne troops. VTA's fleet of roughly 250 IL-76 CANDID medium transport planes (excluding the other 250 AN-12 CUBs) could easily airlift one airborne division with full combat equipment and supplies a distance of 4,600 kilometers. The AN-22 COCKs and IL-76 CANDIDs could also be used to ferry paratroops, and to even greater distances. What has emerged from this VTA modernization program is a more versatile airlift capability that can support the airborne forces in executing its missions.²⁷ A summary of VTA's airlift capabilities is shown below:²⁸

TABLE 4-2: USSR MILITARY TRANSPORT AIRLIFT CAPABILITIES				
Aircraft	CONDOR	AN-22	IL-76	AN-12
Estimated Quantity	?	55	250	250
Max Payload (MT)	125	80	40	20
Troop Capacity	345	175	140	90
Paratroop Capacity	270	175	125	60
Range (KM)	3,400	4,200	4,600	1,200

Since 1976, the emphasis on aircraft-delivered airborne operations at the operational and tactical levels has diminished. Glantz attributes this reduction in emphasis to "Soviet reluctance to advertise such a clearly offensive weapon, [and] also to a growing Soviet interest in helicopter-landed forces in both the operational and tactical context."²⁹ As heliborne assault forces were expanded in the 1970s, the classic airborne division underwent some force structure changes. While retaining its triangular configuration (three regiments, each with three battalions), the airborne division's size has been reduced slightly. From a 1978-strength of 7,673 men, the division has diminished to a present strength of about 6,500 men. Nonetheless, the modern airborne division and its derivative -- the air assault brigades -- pose a significantly greater threat than the older classic parachute division.³⁰ A summary of the weapon/equipment as used in the 1982 Soviet Airborne Division is tabulated below. As

with all Soviet equipment development, very little information is available on its future weapon systems.³¹

TABLE 4-3: SOVIET AIRBORNE DIVISION

1.	Individual Weapon	5.45mm AK-74 and AKS-74 Assault Rifle 30mm AK-74 Assault Rifle with Grenade Launcher(?)
2.	Infantry Support Weapon	
	a. Light Machine Gun	5.45mm RPK-74 Light Machine Gun
	b. Grenade Launcher	30mm AGS-17 Auto Grenade Launcher
	c. Mortar	82mm Automatic Mortar AM Vasilek mounted in BMD(?) 120mm M1943 Mortar
	d. Antitank Weapon	RPG-16 Light Antitank Weapon RPG-16 Portable Rocket Launcher AT-3/SAGGER Antitank Guided Missile AT-5/SPANDREL Antitank Guided Missile
3.	Fire Support	
	a. Artillery	122mm D-30 Howitzer
	b. Multiple Rocket Launcher	122mm M1975 Rocket Launcher
	c. Locating Radar	ARSDM-2P SMALL YAWN Countermortar Radar
4.	Air Defense	SA-7/GRAIL Surface-to-Air Missile SA-14/GRIPSTOCK Surface-to-Air Missile 23mm ZU-23 Antiaircraft Gun
5.	Armored Personnel Carrier	BMD Airborne Combat Vehicle
6.	Tank Destroyer	85mm ASU-85 Self-Propelled Antitank Gun

As mentioned previously, the development of the Soviet

airborne forces as a strategic force has been an incremental process since 1956. The Soviet invasion of Afghanistan in December 1979, spearheaded by the Soviet 105th Airborne Guards Division, was a fitting culmination to a decade of force modernization. When placed on alert during the Yom Kippur War, these airborne divisions rendered credible Brezhnev's implied threat to intervene unilaterally in the conflict; the event first illustrated the potential of these airborne divisions for intervention in Third World conflicts.³² The invasion of Afghanistan dramatically demonstrated their actual capability. If this trend persists, it can be extrapolated that airborne forces are likely to be a key component of any direct intervention by the Soviet Union in the future. In this light, the development of any required operational capability (ROC) for Infantry Division (Light) weapon system should take into consideration the performance and limitations of Soviet airborne forces' weapons.

In this section, we have reviewed the development of the Soviet airborne forces and their airlift projection capabilities. These airborne forces can perform a wide spectrum of tactical, operational, and strategic missions in both nuclear and conventional environments. Although the newly created air assault brigades have undertaken its tactical missions, the airborne forces will continue to perform operational missions in support of a theater offensive or perform a variety of independent strategic missions. In addition, the strategic airborne forces can be used as a political tool to "show the

flag", demonstrate support for a government, or exhibit presence in a region.³³ If established patterns persist, we can expect the Soviet strategic airborne forces to be involved in the following scenarios:³⁴

a. Actions to forestall the reorientation of regimes closely associated with USSR. The Soviets appear anxious to hold on to the gains they have so far secured in the Third World and to prevent setbacks such as those in Somalia and Egypt. The invasion of Afghanistan is an example of this scenario, in which the "Brezhnev Doctrine" was invoked. Thus, in countries where external communist forces are already present, the airborne forces may be employed in order either to protect a favored government from being overthrown by internal rivals or to assist in deposing a regime attempting to move out of the Soviet orbit.

b. Protection of client states threatened with catastrophic defeat. The Soviet leaders will be most inclined to threaten or to render direct combat assistance to important Third World clients in conflict situations of dire necessity -- namely when the client faces destruction of its military forces.

In the conclusion of the "Soviet Airborne Experience", Glantz predicted in 1984 that "[the] seventies and eighties have seen Soviet airborne forces mature into what the visionaries of the 1930s anticipated they could become, namely, a full-fledged vertical dimension of deep battle".³⁵ However, the 1990s will see the final metamorphosis of the Soviet airborne forces into a more formidable

instrument of Soviet foreign policy. They are already a credible, diverse, and survivable force whose capabilities add yet another facet to the Soviet force projection capability, so necessary in the future strategic environment. Evolving technology and continued experimentation with the airborne organizational structure have enabled Soviet military theorists and practitioners to realize the strategic-operational potentials of airborne forces and to overcome problems that plagued other airborne forces.³⁶

U.S. Response to Soviet Airborne Forces

In attempting to preclude a potential U.S.-USSR direct confrontation which could lead to a nuclear exchange or general war, Allard advocates the adoption of a strategy of preemptive power projection, a strategy reminiscent of Nathan Bedford Forrest's axiom about "getting there firstest with the mostest." This author agrees with Allard's view that arriving at the disputed area "first" is the more important half of the axiom, since the objective is to force the other power either to retreat entirely or to choose a face-to-face tactical engagement that carries a risk of escalation. The key requirement in such a strategy is to project a credible combat force into a disputed area with sufficient speed and surprise to present the Soviets with a fait accompli. The strategic aims of this form of power projection are not limited to military seizure of a key city or geographic feature. A swiftly executed preemptive deployment would have a "paralytic effect" on the Soviet decisionmaking apparatus. In

supporting this "speed-of-insertion" strategy, Peter Bovlan added that "the credibility of the force must be closely tied to the adversary's perception of political will and not necessarily to a mere military capability." Admittedly, it is possible that the deployed force would be militarily defeated, but the risk of escalating the conflict would be high.³⁷

Proxy Warfare

In the next two decades, it is highly unlikely that the U.S. and the USSR will be involved in a general war or nuclear exchange. Nevertheless, the two superpowers will continue to contest for supremacy in the international arena. It is predicted, as in Chapter 3, that the most violent confrontation between the U.S. and USSR could take place in the less developed countries of Central America, Middle East, Asia, and Africa. The likelihood of limited war in these areas is much greater than in Central Europe, and the challenges to U.S. security interests will be far less clear-cut than a direct Soviet attack on NATO.³⁸

The late 1970s witnessed a watershed in Soviet foreign policy. Under the umbrella of the strategic nuclear parity, and emboldened by "the paralysis of imperial will" in post-Vietnam War U.S., the USSR accelerated the projection of military forces beyond its traditional sphere of influence in Eastern Europe. William E. Griffith, in his presentation at the U.S. Army War College on 19 October 1978.

cautioned that "this lack of response [by the United States] ... inevitably leads the Soviet leadership to feel that they can run somewhat more risks elsewhere."³⁹ This was evident in Angola in 1975, Ethiopia in 1977, and culminated in the 1979 invasion and occupation of Afghanistan. To intervene in Central America, the Middle East, Asia and Africa, the Soviet Union has come to rely heavily on the use of proxies. Coupled with its increased military capabilities, the use of proxies by the Soviet Union makes it even more threatening to the U.S. and other free world nations. The use of proxies allows the USSR to make incremental gains in Third World countries while maintaining detente with Western Europe. It also lessens the risks to the Soviet Union of a concerted Western response in non-NATO areas. Walter Laqueur considers this use of proxies as "the most interesting, innovative, and on the whole, the most effective technique" the Soviets have employed in the Third World.⁴⁰

William Taylor and James Townsend in "Soviet Proxy Warfare," summarize some of the ways in which proxies serve Soviet interests:⁴¹

- a. Proxy military forces;
- b. Countries from which Soviet will use to project its military power;
- c. Satellite intelligence services operating in both developed and less developed countries;
- d. Conduits for covert military assistance; and

e. Training grounds for terrorism.

Besides advancing Soviet interests at less cost and risk as compared to any direct Soviet armed intervention, the use of proxies allows the Soviet Union to project its power without risking the defeat of Soviet military forces. In economic and political terms, the use of proxy forces is relatively inexpensive. Proxies located at great distances from their patron can operate more efficiently than Soviet forces, which would have to maintain a logistical link with the Soviet Union. At the same time, the use of proxies allows for a face-saving retreat should circumstances arouse a forceful U.S. response or direct confrontation.

U.S. Response to a Soviet-backed Proxy Intervention

Although the threat of Soviet-backed proxy intervention to U.S. vital and important interests is clear, there is no facile formula for a U.S. response. Each case should be handled on its own merits and within its regional context. General Fred K. Mahaffey is correct in saying that "much of [U.S.] current conventional infantry forces is ill-suited" and poorly equipped to deal with low-level security threats in peripheral areas.⁴² Since the 1970s, U.S. military forces have been structured, armed and trained for a war of attrition on the central European plains, not for unconventional wars in jungles of Central America or deserts in the Middle East. Emerging technologies are not applied for use in the development of weapon

systems for low intensity conflicts. It is thus difficult for the U.S. to cope with a Soviet global strategy that uses proxies as a means of tactical maneuver. The creation of the light infantry forces is only one small step in addressing the problem.

One important lesson of the Vietnam War is that the American public is unwilling to intervene in another Third World conflict in pursuit of goals that are either unclear or not widely accepted. The U.S. mentality tends to regard war and peace as a stark dichotomy and tends to think of war in total, all-or-nothing terms. If the Soviet proxy threat does not pose a clear, direct danger to the U.S. homeland or to close allies, it does not evoke a strong response from the U.S. public opinion.

In brief, Taylor and Townsend identify accurate political intelligence and forecast as the prerequisite for any effective response to proxy intervention. They further divide possible U.S. responses into three categories: deterrence, preemption, and reaction.⁴³

a. Deterrence. By making clear its commitment to retaliate if USSR directs or permits proxy intervention, the U.S. can change Soviet risk perception and decrease the likelihood of a proxy conflict. These assurances, however, cannot be idle threats; the U.S. must back up its military commitments with the requisite capabilities. The "Carter Doctrine" to defend the Persian Gulf from any Soviet

incursion, even if it meant sending U.S. forces to the region, was weakened because the hastily-formed RDJTF lacked the capabilities to carry out the threat of conventional force retaliation in an area so far from home and so near the Soviet Union.

b. Preemption. When given sufficient warning time, the U.S. has a number of ways to preempt an imminent proxy operation. Preemption may be conducted in the state where U.S. interests are threatened or in the proxy state itself or in the geographic space between the two. The U.S. can conduct a variety of actions short of committing military forces, such as the provision of weapons, training, advisers, financial assistance, and aid in psychological operations. Successful preemption requires forces quite different from the heavy U.S. Army units designed for attrition warfare in Central Europe. Exact force requirements are dependent on the theater of operations. The U.S. should maintain light, quick response task forces for all types of terrain and climate that could be assembled and deployed on short notice.

c. Reaction. If all other measures fail or a proxy attack occurs without warning, the U.S. still has a military reaction option. Proxy conflicts can take place far from CONUS. Therefore, greater strategic airlift capability is needed in order to bring the reaction forces where they are needed rapidly. In order to deal effectively with the low-intensity conflicts that will characterize Soviet proxy operations, the U.S. must increase the proportion of its armed forces

available for low intensity conflict. In this context, the primary U.S. force suited to respond to proxy intervention is the newly created light infantry division.

SUMMARY

Forecasting patterns of Soviet political and military behavior is a difficult but necessary task for meaningful defense planning, and it is important that the Army leadership reflects on how the potential threat's weapon and military capabilities will affect the successful accomplishment of missions. With this in mind, one purpose of this literature review is both to bring into focus the threat to U.S. interests in the 1990s, and to underscore the threat's military capabilities that are relevant to the U.S. Army Infantry Division (Light). A summary of the major findings is listed below:

a. Outcome of Soviet involvement in Third World conflicts. The Soviet Union's military activities in the Third World have been a series of incremental encroachments on the international order in its favor. By choosing the places and times of its involvement, the Soviet Union has substantially increased its geostrategic gains and latitude of actions on the world stage.

b. Future Soviet involvement in the Third World. The Third World will continue to be affected by Soviet attempts to improve their global status and challenge the preeminence of U.S. The trends which clearly indicate Soviet activism and influence in the Third World also

provide the possible circumstances in which USSR would intervene:

(1) When the USSR receives a request from a local government or some arguably legitimate political entity;

(2) When the USSR perceives a low risk of direct confrontation with the U.S. or an absence of viable U.S. response options;

(3) When the Soviet Union has the opportunity to conduct on-the-spot assessments of the local balance of forces and determines that its intervention has a good prospect of achieving immediate military success; and

(4) When the USSR has access to the necessary base and transit infrastructure to support its intervention logistically.

c. *Force projection means.* The Soviet airborne forces will continue to be a key component of any direct intervention by the Soviet Union, especially in areas of vital USSR interests. The Soviets will conduct proxy operations in areas which are traditionally beyond their sphere of influence.

(1) *Soviet airborne forces.* Besides their employment on the tactical-operational level, Soviet airborne forces will be employed to forestall the reorientation of regimes closely associated with the USSR and in the protection of their client states from catastrophic defeats. The U.S. can counter Soviet airborne forces by

a preemptive deployment of its light infantry forces in the contested area of operation.

(2) Proxy warfare. The Soviet Union will continue to rely on low-risk proxies operations and military assistance to aid liberation movements in Central America, Africa, the Middle East, and Asia. The Soviet arms transfer to the Third World countries, especially in those countries the Infantry Division (Light) might be employed, represents a positive threat to possible U.S. responses against Soviet-backed operations.

ENDNOTES

¹Even though we will only discuss the U.S. military responses to the growing Soviet threat in this chapter, there are other ways which the U.S. can use to limit the extent of Soviet military adventurism in the Third World: diplomatic, economic, and political power. Henry Kissinger further added that, "[to] forclose Soviet opportunities is thus the essence of the West's responsibility. It is up to us to define the limits of Soviet aims." Henry A. Kissinger, White House Years (Boston: Little, Brown and Co., 1979): 119.

²Bruce D. Porter, The USSR in Third World Conflicts: Soviet Arms and Diplomacy in Local Wars 1945-1980 (New York: Cambridge University Press, 1984): 216-218.

³Ibid.,: 236-238.

⁴Ibid.,: 238-240.

⁵Ibid.,: 242.

⁶Stephen T. Hosmer and Thomas W. Wolfe, Soviet Policy and Practice toward Third World Conflicts (Lexington, MA: Lexington Books, 1983): 165-167. Some of the constraints on greater Soviet activism include -- U.S. policies and actions, domestic instability and capriciousness of Soviet clients, fundamental divergence of Third World countries' national interests from those of the USSR, economic considerations, and constraints on the use of proxies.

⁷Ibid.,: 163-165. Other trends not mentioned in the thesis include accumulated Soviet experience and infrastructure gained from past involvements in Third World countries, and the successful

Soviet-backed proxies intervention.

⁸Ibid.,: 163. See also Porter, loc. cit., : 40-46. For a discussion of the Soviet naval capabilities, see for example, Robert Waring Herrick, Soviet Naval Strategy: Fifty Years of Theory and Practice (Annapolis: US Naval Institute, 1968); Sergei Gorshkov, "Guarding the Conquests of the Great October Revolution," Morskoi Sbornik (October 1967); Sergei Gorshkov, "Navies as Peacetime Instruments of the Aggressive Policy of Imperialists States," Morskoi Sbornik (December 1972); Michael McGwire et al., (eds.) Soviet Naval Policy: Objectives and Constraints (New York: Praeger, 1975).

⁹Ibid.,: 163.

¹⁰Ibid.,: 164.

¹¹Porter, loc. cit.,: 184. Francis Fukuyama asserts that two possible factors might encourage Soviet risk-taking propensities. First, the new and younger Soviet leadership under Mikhail Gorbachev may be more willing to take risks for diplomatic gains. This can be accounted to their outlook toward conflict and its consequences have not been shaped by the destruction and personnel losses suffered by the Soviet Union during the Great Patriotic War. Second, the prospect of the closing, by the late 1980s, of what some analysts now see as a window of vulnerability in certain U.S. strategic and conventional force components may induce the Soviets to act more assertively while they still possess a comparative military advantage. See Francis Fukuyama, "A New Soviet Strategy," Commentary, (October 1979); Jerry F. Hough, Soviet Leadership in Transition (Washington: Brookings Institution, 1980): 57-60, 160.

¹²Hosmer and Wolfe, loc. cit.,: 168.

¹³Chiang Kai-Shek, Soviet Russia in China: A Summing-up at Seventy (New York: Farrar, Strayss and Cadahy, 1957): 22. The "restraint" mentioned here may have originated at least partly from the Red Army's debacle on the Vistula in 1920 during its revolutionary campaign against Poland. On that occasion, Lenin is reported to have declared that in the future the USSR should offer only indirect support to revolutionary movements abroad and should never commit its own troops in direct participation. Whether or not his words were reported accurately, that counsel does conform with subsequent Soviet policy, at least until 1979. It was a policy that sharply limited Soviet influence in local conflicts. Porter, loc. cit.,: 53. In A

History of the Soviet Union (London: Fontana Paperbacks, 1985): 456, Geoffrey Hosking indicates that the invasion of Afghanistan "provoked a wave of indignation and hostility both among the Western powers and from the Islamic world."

¹⁴Drew Middleton, "Soviet Display of Flexibility," The New York Times (28 December 1979): 1.

¹⁵Kenneth Allard, "Soviet Airborne Forces and Preemptive Power Projection", Parameters (December 1980): 42.

¹⁶Ibid.,: 42. In "Conclusions from the Experience of Airborne Landings in World War II," trans. from Voyenno-Istoricheskiy Zhurnal, (July 1981): 67-74, Col. Gen. D. Sukhorukov relates the German operational-strategic airborne successes in Norway (1940) and Crete (1941). This author adopts Sukhorukov's definition of "operational-strategic" as used in the reference. See Selected Readings in Military History: Soviet Military History, Volume II: The Soviet Army since 1945 (Fort Leavenworth, KS: USACGSC, CSI RB 20-19, 1 January 1984): 119-128.

¹⁷Sukhorukov, Sovetskie vozdushno: 263. After World War II, the airborne forces were reorganized into three corps (comprising 100,000 men) and placed in a separate directorate under the Ministry of Defense. The position of commander of airborne forces was reestablished, and Col. Gen. V. V. Glagolev was appointed the first postwar commander (April 1946). Cited in Lieutenant Colonel David M. Glantz, The Soviet Airborne Experience, Combat Studies Institute's Research Survey No. 4: 137.

¹⁸The official 50 Years of the Soviet Armed Forces confirmed that "...in the airborne forces there remained not a few of the obsolete aircraft (IL-2) with low speed and cargo capacity. Therefore, for towing gliders and transport of heavy equipment TU-2 and TU-4 supplied by the air force were used." Cited in Glantz, loc. cit., : 138-139.

¹⁹P. Pavlenko, "Razvitie taktiki vozdushno-desantnykh voisk v poslevoennyi period" [The development of airlanding force tactics in the postwar period], VIZh (January 1980): 27.

²⁰Glantz, loc. cit., : 136.

²¹Ibid.,: 143.

²²V. Margelov, "Razvitie teorii primeneniya vozdushno desantnykh voisk v poslevoennyi period" [The development of the theory of the use of airlanding forces in the postwar period], VIZh (January 1977): 58.

²³S. A. Tyushkevich et al., (eds.), Sovetskie vooruzhennye sily [The Soviet Armed Forces] (Moskva: Voennoe Izdatel'stvo, 1978): 384-388; Pavlenko, "Razvitie taktiki," : 28; cited in Glantz, loc. cit.,: 142.

²⁴Robert P. Berman, Soviet Air Power in Transition (Washington, DC: The Brookings Institution, 1978): 36; John M. Collins and Anthony H. Cordesman, Imbalance of Power: Shifting U.S.-Soviet Military Strengths (San Rafael: Presidio Press, 1978): 193-195; Alfred L. Monks, "Air Force," in David R. Jones, (ed.), Soviet Armed Forces Review Annual 1977 (Gulf Breeze, FL: Academic International, 1977): 53.

²⁵Since the introduction of the BMD, the Soviets have made a number of adjustments in the force structure of the airborne division and in its combat support capabilities.

²⁶Allard, loc. cit.,: 43-44.

²⁷Porter, loc. cit.,: 48. A discussion of the the Soviet VTA is given in Peter Borgart, "The Soviet Transport Air Force," International Defense Review (June 1979): 948-950. According to Porter, the Soviet 105th Airborne Guards Division, as employed in the invasion of Kabul, was airlifted by roughly 250 flights of IL-76 CANDID. Porter, loc. cit.,: 56. In another source, Weapons and Tactics of the Soviet Army (New York: Jane's Publishing Inc., 1981): 286, David C. Isby states that the Soviet Air Force can transport only two divisions at once, even though there are eight airborne divisions in the Soviet Union.

²⁸Information on the USSR military transport capabilities are obtained from Soviet Military Power 1985, Fourth Edition (Washington, DC: US Government Printing Office, April 1985): 78-89.

²⁹Glantz, loc. cit.,: 154.

³⁰Ibid.,: 155. According to U.S. Army Combined Arms Combat Development Activity, Concepts, Doctrine and Literature Directorate, Threats Division, HB 550-2, Organization and Equipment of the Soviet Army (Fort Leavenworth, KS, 31 July 1978): 2-12, 2-13 and FM 100-2-3: The Soviet Army -- Troops, Organization and Equipment, (16 July 1984): 4-139 to 4-142, the Soviet Airborne Division TOEs for 1978 and 1982 are as follows.

1978 Airborne Division (7,673 men)

- 3 airborne regiments
 - 3 airborne battalions
- 1 artillery regiment
 - 1 howitzer battalion (18x122-mm)
 - 1 MRL battalion (18x140-mm)
 - 1 assault gun battalion (18xASU-85)
- 1 antiaircraft battalion (18xZU-23)
- 1 reconnaissance battalion
- 1 engineer battalion
- 1 signal battalion
- 1 transportation battalion
- 1 maintenance battalion
- 1 medical battalion
- 1 chemical defense company
- 1 parachute rigging company

1982 Airborne Division (6,500 men)

- 3 airborne regiments
 - 3 airborne battalions
- 1 artillery regiment
 - 1 howitzer battalion (18x122-mm)
 - 1 composite artillery battalion (12x122-mm, 6x122-mm MRL)
- 1 assault gun battalion (31xASU-85)
- 1 antiaircraft battalion
- 1 reconnaissance battalion
- 1 engineer battalion
- 1 signal battalion
- 1 transport and maintenance battalion
- 1 medical battalion
- 1 chemical defense company
- 1 parachute rigging, resupply company

³¹The Soviet Airborne Division TOE is available in FM 100-2-3: The Soviet Army, Troops, Organization and Equipment. Other references used include: Ian V. Hogg, (ed.), Jane's Infantry Weapons 1985-1986, Eleventh Edition (New York: Jane's Publishing Inc., 1985):

Christopher F. Foss, (ed.), Jane's Armour and Artillery 1985-1986, Sixth Edition (New York: Jane's Publishing Inc., 1985); David C. Isby, loc. cit.,: 286-296.

³²It is arguable exactly when the potential strategic-operational missions of the Soviet airborne forces first received public attention. Some Western analysts believe that this goes back to the 1956 Suez Crisis, when in Khrushchev's words, "large numbers of Soviet airborne volunteers" might have been deployed in the Middle East. However, the VTA in 1956 was lacking in airlift capabilities.

³³Glantz, loc. cit.,: 156.

³⁴Hosmer and Wolfe, loc. cit.,: 169-173.

³⁵Glantz, loc. cit., 157.

³⁶Ibid.,: 157.

³⁷Allard, loc. cit.,: 49. Peter J. Boylan, "Power Projection, Risk and the Light Force," Military Review (May 1982): 69. Thomas C. Schelling raised a similar point in describing as a "preemptive maneuver" the 1958 landing of U.S. Marines in Lebanon as a signal of the seriousness of American intentions: "It is harder to retreat than not to land in the first place; the landing helped put the next step up to the Russians." Thomas C. Schelling, Arms and Influence (New Haven: Yale University Press, 1977): 49. The author is uncertain as to how the Soviets might react to a U.S. military preemption, using the light infantry forces in a Third World conflict, especially in areas of strategic importance to the Soviet Union. A favorable assessment of the evolving balance of forces may lead Kremlin to assert itself to deter or counter such U.S. "preemptive maneuver" with its airborne forces. Iran is one such strategically sensitive areas, particularly because the 1921 Soviet-Persian Treaty -- Article 6 gives the Soviet government "the right to send its army into Persia [Iran] in order to take the necessary military steps in its own defense" should "any third countries intend to pursue a policy of transgression in Persian [Iranian] territory, or to make Persian [Iranian] territory a base for military attacks against Russia." See Henry S. Bradsher, Washington Star (21 November 1979): A2; Hosmer and Wolfe, loc. cit.,: 173.

³⁸William J. Taylor, Jr. and James J. Townsend. "Soviet Proxy

Warfare," in Robert H. Kupperman and William J. Taylor, Jr. (eds.), Strategic Requirements for the Army to the Year 2000 (Lexington, MA: Lexington Books, 1984): 209-226.

³⁹William E. Griffith, "The USSR in Political Perspective," Parameters (June 1979): 9.

⁴⁰Walther Laqueur, Introduction, in Laqueur, (ed.), The Pattern of Soviet Conduct in the Third World (New York: Praeger, 1983): 11. Much confusion has been raised over the definitions of proxies, surrogates, and satellites. Peter Vanneman and Martin James, in "Soviet Thrust into the Horn of Africa," Strategic Review, Spring 1978: 34, offer an excellent definition of proxy forces: "In a proxy war the armed forces of one nation serve the interests of another nation ... The principal power is the sponsor in the sense that its material support makes the venture possible, and its clear disapproval would seriously deter the proxy from embarking on the venture."

⁴¹Taylor and Townsend, loc. cit.,: 211.

⁴²Fred K. Mahaffey, "Landpower is Decisive Combat Element," Army 34 (December 1984): 63.

⁴³Taylor and Townsend, loc. cit.,: 216-224.

CHAPTER FIVE

MODERNIZING THE INFANTRY DIVISION (LIGHT)

The light infantry division will be equipped for the mission. High technology will be used to enhance command and control, firepower, navigation, night vision, air and ground mobility. The concept of developing "lightness" in equipment and combat resources will become an integral part of the Army's acquisition process. Equipment will be oriented toward reduced size and weight for reasons of both strategic and tactical mobility.¹

John A. Wickham, Jr

INTRODUCTION

How significant is the role of modern conventional weapons or advanced technologies on the outcome of a conflict? Recent histories have shown that success in modern conflict is not solely dependent on the quality of equipment or sophistication of technology. Other intangible factors such as leadership, morale, strategy, and national will are often determining factors in the course of a conflict. The Vietnam War is one example that comes to mind. Despite the superior firepower and mobility, the U.S. was unable to contain the North

Vietnamese and Vietcong threat, which fought with vastly inferior equipment. The Falklands War demonstrated the importance of intangibles. Argentina enjoyed several military advantages, including local numerical superiority in forces, well-entrenched defensive positions, relatively short supply lines, and fairly sophisticated equipment. But the British were able to snatch a quick victory because of superior personnel, tactics, and strategy. What then is the significance of advanced technology and equipment? According to Rodney W. Jones and Steven A. Hildreth, conventional weapons and technology can alter the balance in a conflict or decide a military outcome only when all other things between adversaries are equal.²

Advanced military technology is required not only to wage wars but to deter various types of conflict. While this statement in itself appears self-evident, some of its implications should be considered most carefully. Deterrence requirements are dynamic. They change not only because of political, military, and economic factors but also because of the changing nature of technology itself. For the last forty years, overwhelming U.S. strategic superiority assured an adequate deterrent margin even though the U.S. has a somewhat reduced conventional capability. This situation is now changing. The military technology gap between the U.S. and the Soviet Union has narrowed markedly since the 1960s, due to a sustained and determined effort by the Soviets. Because technology continues to be a major U.S. strength relative to its potential adversaries, it is natural that we look to the advances in technology to resolve the problem of

equipping the Infantry Division (Light) in the 1990s.³

PREDICTIVE FAILURES AND PROBLEMS IN MILITARY TECHNOLOGY

Before we begin our review of the technologies and weapon systems applicable to the Infantry Division (Light), it is necessary to forewarn the reader of the pitfalls in projecting future military technology and its possible implications. History has provided us with a long list of failures in predicting military technology. Friedrich Engels, for example, wrote a century ago that:

The Franco-Prussian War (1870-1871) marked a turning point which was of entirely new significance. In the first place the weapons used have reached such a stage of perfection that further progress which would have any revolutionizing influence is no longer possible. Once armies have guns which can hit a battalion at any range at which it can be distinguished, and rifles which are equally effective for hitting individual men, while loading them takes less time than aiming, then all further improvements are more or less unimportant for field warfare. The era of evolution is therefore, in essentials, closed in this direction.⁴

Another example of these failures is the U.S. Congress National Resources Committee Report, 1937 on future technology and trends. The report failed to identify the development of jet engines, radar, inertial guidance, rocket-propelled missiles, electronic data-processing computers, artificial satellites, and nuclear weapons. All of these technologies were in use or under development within a few decades of the forecast. Now that the process of technological innovation has been institutionalized, accurate long-term appraisals of future military technology might be even more difficult than in 1878 or 1937 since technological opportunities

created by unpredictable scientific developments will be rapidly exploited, more often than not.⁵

The second critical point relates to the inherent bureaucratic inertia and general lack of interest by the "high technology" R & D industries on infantry-related equipment.⁶ Bureaucratic inertia, while serving a useful function of eliminating non-feasible proposals, can also be counterproductive if the Soviets manage to follow through the prototyping with success. Infantry-related weapons are, in general not as profitable as mechanized warfare armament. Consequently, the defense industries pay little or no attention to the development of infantry weapons. All these points -- the intrinsic difficulty of predicting future military technology accurately, bureaucratic inertia, and the general lack of interest in infantry weapon development -- are used primarily to set the stage as we explore the focal question below. We remind the reader that the central purpose of this chapter is to provide a review of the technologies and weapon systems that are applicable to the Infantry Division (Light).

REVIEW OF EQUIPMENT REQUIREMENTS FOR THE INFANTRY DIVISION

Weapons and equipment designed for the light infantry division must meet its operational requirements. Unfortunately this is not always recognized. Some writers believe that the root of the problem lies in the "American style of war", in that it overemphasizes the application of "elusive state-of-the-art advances" without

incorporating the proper tactical perspectives. Steven L. Canby in the discussion of the methodology underlining his study, Classic Light Infantry and New Technology, identifies three different approaches to direct U.S. R & D effort in the equipping of the Infantry Division (Light). According to Canby, the selection criterion of useful technology lies in the identification of each equipment capability or elimination of which deficiency most enhances the overall effectiveness of the division. In this section, we will review the equipment requirements of the Infantry Division (Light) by adopting Canby's approaches:⁷

a. Method 1. Survey the equipment in use by some foreign armies, and then project how the equipment and its underlying technology could assist in developing light infantry capabilities.

b. Method 2. Analyze the doctrinal and tactical repertoires required and expected of light infantry and then suggest the technology or equipment that could facilitate the execution of the mission and component tasks.

c. Method 3. Survey R & D centers here and abroad and then project how emerging technological possibilities could assist in developing light infantry capabilities.

Method 1.

An excellent example of the first method is in Edward N. Luttwak. An Historical Analysis and Projection for Army 2000, Part

Two: Analysis and Conclusions. By analyzing the past experiences and equipment of some foreign armies, Luttwak recommends the following equipment requirements at the various levels in the Infantry Division (Light):⁸

a. Squad: 2 x squad assault weapons (SAW); 2 x automatic rifles with built-in grenade launcher (AR/GL); 1 x sniper rifle (or precision-modified AR); lightweight ARs; light antitank weapons (LAW); and individual and weapon night-sights.

b. Platoon: The platoon will not hold organic weapons heavier than those at the squad level.

c. Company: 3 x 60mm or "commando" 81mm mortars; 3 x MILAN/long-range DRAGON, or TOW launchers, and/or MAWs; 1-2 x .50 caliber heavy machine gun (HMG) with tripods, and STINGERS; mines, self-powered tree cutting saws (for abbatis), and heavy-duty pneumatic hammers (for urban terrain).

d. Battalion: 4 x 120mm mortars⁹; 2 x automatic grenade launchers (AGLs); 8 x TOW/TOW-2 launchers and stocks of MAWs; 6 x .50 caliber HMGs with tripods and STINGERS; anti-personnel (AP) and anti-tank (AT) mines, and other engineer supplies according to theater and sector requirements.

e. Echelons above the battalion: helicopter transport assets; fire support; and other combat service support elements.

In addition, Luttwak advocates that the light infantry's divisional-level echelon should reflect the fundamental character of the light infantry with the following characteristics.¹⁰

- a. Reduced material handling (especially ammunition) requirement.
- b. Reduced land vehicle requirement.
- c. Reduced motor transport maintenance and repair capabilities.
- d. Limited helicopter-lift requirement.
- e. Reduced administrative and clerical requirements.
- f. No reduction in the C³I capabilities.

Method 2

Steven L. Canby, in Classic Light Infantry and New Technology, a study sponsored by Defense Advanced Research Project Agency (DARPA), uses the second method to narrow the equipment requirements for a light division operating in the Zagros Mountains. He arrays the operational requirements for the infantry division against its tactical functional elements. By grouping the functional elements into clusters -- light infantry, static defense, surveillance and firepower, Canby is able to identify the distinct and different technologies necessary to meet the operational requirements of the

light infantry. A summary of Canby's qualitative material requirements is given below:¹¹

a. Night blinding and night vision protection. Non-fragmentation photo-flash bombs are required to stun and blind the enemy temporarily. Soldiers will be provided with lenses for use in night vision devices to prevent blinding by the photo-flash bombs.

b. Anti-helicopter defense. To meet the helicopter threat, Canby proposes the development of a specialized anti-helicopter-only STINGER with a "fire-and-forget" capability, special anti-helicopter ammunition for light machine guns (7.62mm LMGs) and HMGs, a parapac "aerial" mining system, a remote 8-cell missile firing system, an anti-helicopter surveillance system for monitoring enemy helicopters, and a long-loiter light fighter for attacking helicopters and troops.

c. Fieldcrafts and weight reduction. The main areas where considerable weight reduction could be effected are weapons, ammunition, and protective armor. Research and development for light infantry squad weapons should focus on improving their performance within the framework of their tactical and functional requirements. Advanced engineering and new materials -- alloys, plastics and composites -- could reduce the weight of the infantryman's weapons, particularly crew-served weapons. Kevlar can be incorporated into the combat vest to improve body protection.

d. Radio communications. The communications system developed

for the light infantry brigade and below should be based on packet technology and switching. Beside having a range of at least 5 kilometers without relay, it should operate in the UHF range and employ optical spectrum techniques.

e. Anti-vehicular destruction. The principal requirements for anti-vehicular weapons are portability, low signature, and multi-purpose, i.e. with ammunition specialized for target damage and range. These requirements can be met by the development of a 15-20mm single shot, clip-fed crew-served (two-man) weapon, weighing no more than 25 kilograms.

f. Engineer off-sight demolitions and mining capabilities. In the Infantry Division (Light), the most important engineer task is to disrupt, delay, and halt enemy vehicular movements. This can be accomplished by using more powerful explosives or off-sight mines.

g. Fortifications. Light infantry forces would require power drilling equipment, and prefabricated Kevlar cocoon turrets with appropriate modular frames for weapons in a static defense.

h. Ground surveillance. Remotely piloted vehicles (RPVs) and remote video sensors are required in the conduct of reconnaissance in the attack and surveillance in the defense. RPVs in this context do not require high agility, target designators, complicated control, anti-jam data links, or complex algorithms. By using remote video sensors in the flanks, manning is not necessary until substantial

enemy activity is detected.

i. Mortar development. Canby believes that mortar development is lagging in the U.S., especially in the areas of increased range and accuracy, and weapon weight reduction by new designs, composite materials, and terrain adaptation. He recommends the use of 60mm mortars at company level and below, 81mm mortars at battalion level, 160-200mm mortars, 155mm howitzers (for "flatlands" infantry) at the brigade level. Multiple rocket launchers are required to supplement the volume fire of mortars if the mortars at brigade level are smaller than 160mm.¹²

j. Improved conventional munitions. Examples of improved conventional munitions cited by Canby include -- large mortars for dispensing submunitions, smaller mortars with guided unitary warheads, and fuel air explosives.

k. Fire control. Canby points out the two different fire support requirements for light infantry forces: the first, volume critical; the second, time critical. The volume-critical fire control system must be able to direct the use of aerial delivered area munitions, with secondary capability to call in brigade support weapons. This fire control system can be unsophisticated. On the other hand, time-critical fire control system must be responsive, accurate, secure, and reliable. For these requirements, Canby considers suitable a hand-held calculator, developed for fire

direction computations.

Method 3

In Chapter 3 we discussed briefly the High Technology Light Division (HTLD) missions as tasked by General Edward C. Meyer, then Army Chief of Staff. The 9th Infantry Division is undertaking these missions under the auspices of the Army Development and Employment Agency (ADEA). ADEA, as an example of the third review method, identified several priority programs by combat tasks to meet the thirteen operational/tactical missions established for HTLD. Some of these combat tasks include: close combat; fire support; air defense; engineering; and combat services support.¹³

a. Ten systems are being examined within the close combat category, including the fast attack vehicle, infantry carrier weapons system (ICWS), indirect sighting system (ISS), precision guided antitank missile, mobile heavy mortar, smart munitions for heavy mortars, individual utility light device (IULD), individual soldier night vision device (ISNVD), remotely piloted vehicles (ground) (RPV-G), and kinetic energy free flight rocket.

b. Fire support would come from a lightweight, multiple-launcher rocket system and lightweight field artillery tactical data systems.

c. The HTLD is focussing on four areas of air defense. The systems are towed CHAPARRAL with FLIR, light air defense gun.

lightweight early warning radar, and AWACS interface.

d. Engineer requirements would include countermine, survivability, obstacle reporting/recording system, and portable mechanical gasoline-powered earth breaker tool.

e. Five areas have been emphasized in the combat service support system, namely: palletized loading system (PLS), mobile treatment facility (MTF), tactical four wheel trailer (TFWT), high mobility material handling equipment (HMMHE), and high technology automated service support system (HTAS³).

CURRENT U.S. AND FOREIGN COUNTRIES' R & D EFFORTS ON INFANTRY-RELATED EQUIPMENT

Most of the technological requirements of the Infantry Division (Light) addressed as in the above review are presently listed in the Army's research and development program over the next decade. According to Eric C. Ludvigsen, the Associate Editor for Army, some of the light division equipment requirements so far identified involve future technologies that are either in the exploratory or advanced stages, particularly in C³I, electronic warfare and missiles with advanced guidance. The other requirements, Ludvigsen believes "... could be met by lightweight versions of equipment recently developed for mechanized forces, mounted on towed, wheeled carriages instead of tracks and lacking much, or all, armor protection." The highest

priority projects, in Ludvigsen's view, can be divided into eight areas of R & D emphasis, as order in no particular order:¹⁴

- a. Improved anti-armor penetrators.
- b. C³I, with an emphasis on comprehensive integrated systems.
- c. Fire control technology, including greater speed and precision in acquiring and tracking targets, more advanced data processing, weapon stabilization and the development of systems that permit multiple simultaneous engagements, as well as independent, automatic guidance for a true "fire and forget" capability.
- d. New propellants and caseless ammunition for rifles.
- e. Major advances in microelectronic circuitry such as the VHSIC (very high speed integrated circuit) technology that could be applied to radar, guidance systems, electronic warfare, communications and surveillance.
- f. Millimeter- and near millimeter-wave radar technology for target acquisition and guidance sensors at night, in battlefield smoke and bad weather.
- g. Methods of using smoke and aerosols to cover friendly movements and inhibit enemy fire control.
- h. Greater resolution and discrimination in the target

signatures displayed by night and bad weather sensors at different wavelengths and the minimization of atmospheric effects on the imagery.

To address all the infantry-related equipment for the Infantry Division (Light) would make this thesis a voluminous one. Consequently, this author has chosen to limit the scope of the equipment to those items which are crucial in providing light infantry forces the ability to carry out the missions described in Chapter 3. Those items can be categorized into four major headings: individual and infantry support weapon, fire support, air defense, and tactical mobility. Admittedly, there are other areas of concern, for example protective armor, intelligence and EW, engineering equipment, C³I, and combat service support equipment, but space does not permit the coverage of all these equipment.¹⁵

TABLE 5-1: U.S. ARMY INFANTRY DIVISION (LIGHT)

PRESENT EQUIPMENT	EQUIPMENT UNDERGOING EVALUATION
1. Individual and Infantry Support Weapon	
a. 5.56mm M16A1 Rifle	5.56mm M16A2 Rifle Advanced Combat Rifle
b. 40mm M203 Grenade Launcher	Close-Assault Weapon System
c. 7.62mm M21 Sniper Rifle	
d. 5.56mm M249 Squad Automatic Weapon	5.56mm XM-214 Machine Gun
e. 7.62mm M60 General-Purpose Machine Gun	7.62mm M60E3 Lightweight Machine Gun

- | | |
|----|--|
| f. | 40mm MK19-3 Automatic Grenade Launcher |
| g. | 140mm Rifleman's Assault Weapon (RAW) HE Rocket |
| h. | 66mm M202A2 Multi-Shot Portable Flame Weapon |
| i. | 60mm M224 Lightweight Mortar |
| j. | 81mm M29 Mortar 81mm M252 Improved Mortar |
| k. | 120mm Soltam K6 Heavy Mortar |
| l. | 66mm M72A3 Light Antitank Weapon Advanced Man-Portable Weapon System (The program involves operational testing of AT-4 FFV Ordnance of Sweden, M72E4, a product improved version of M72A3, and APILAS) |
| m. | DRAGON M47 Medium Antitank Weapon Advanced Antitank Weapon System-Medium (One system under consideration is the MILAN 2 Antitank Weapon System) Product Improved (PI) DRAGON M47 Medium Antitank Weapon |
| n. | TOW M220 Heavy Antitank Weapon TOW 2 Heavy Antitank Weapon Fiber Optic-Guided Missile (FOG-M) Hypervelocity Missile System (HVMS) |
-

2. Fire Support

- | | |
|----|--|
| a. | 105mm M102 Light Howitzer 105mm M119 Light Howitzer (British L118) 120mm Soltam K6 Heavy Mortar |
| b. | 155mm M198 Medium Towed Howitzer |
| c. | AN/TPQ-36 FIREFINDER Locating Radar |

d.		Lightweight MLRS 127mm Rapid Deployment Integrated Rocket System (RADIRS)
e.	Battery Computer System (BCS)	Advanced Field Artillery Tactical Data System (AFATDS)
f.	AH-1S COBRA Attack Helicopter AH-64A APACHE Attack Helicopter	Light Helicopter, Experimental (LHX)
3.	Air Defense	
a.	.50 caliber M2HB Heavy Machine Gun	General-Purpose Heavy Machine Gun (GPHMG) 30mm Hughes Automatic Self- Powered Cannon
b.	STINGER Portable Antiaircraft	STINGER-POST STINGER-RMP FOG-M for Air Defense SABER Dual-Purpose Missile Pedestal Mounted STINGER (One system under development is the SETTER Missile System)
c.	20mm M167 Product Improved VULCAN Defense System (PIVADS)	25mm GEMAG Air Defense System
d.		Short-Range Air Defense Command and Control System (SHORAD C ²)
4.	Tactical Mobility	
a.	HUMMER High Mobility, Multi- purpose Wheeled Vehicle (HMMWV)	
b.	UH-60A Black Hawk Transport Helicopter	Advanced Composite Airframe Program (ACAP) PIP Black Hawk Transport Helicopter

A summary of the R & D effort by some foreign countries is

tabulated below. As explained previously, this author has limited the coverage of infantry-related R & D efforts to certain items and to only Western countries, which are primarily arms exporting nations. The items mentioned here will be available, hopefully in the 1990-2000 period.

TABLE 5-2: EQUIPMENT UNDERGOING EVALUATION IN SOME FOREIGN COUNTRIES

1. Individual and Infantry Support Weapon	
a. Rifle	GERMANY
	4.7mm G11 Caseless Heckler and Koch Rifle
	UNITED KINGDOM
	5.56mm XL85E1 Enfield Weapon System
b. Light Machine Gun	UNITED KINGDOM
	5.56mm XL86E1 Enfield Weapon System
c. Grenade Launcher	ITALY
	AP/AV 700 Multiple Grenade Launcher
d. Mortar	FRANCE
	60mm Brandt Long-range Mortar
	GERMANY
	120mm Diehl BUSSARD Terminally-guided Mortar Projectile
	SPAIN
	60mm Model MC-2 Gun-Mortar

e. Antitank Weapon

SWEDEN

120mm FFV STRIX Guided
Mortar Projectile

UNITED KINGDOM

81mm MERLIN Terminally-
guided mortar projectile

FRANCE

115mm AC 300 JUPITER Short-
range Antitank Weapon

120mm SEP DARD Close
Antitank Weapon

130mm SABRACAN Antitank
Weapon

152mm ACCP Short-range
Antitank Weapon

GERMANY

110mm PANZERFAUST 3

SWEDEN

84mm M3 CARL GUSTAF Recoil-
less Gun

150mm RBS 56 BILL Antitank
Missile

2. Fire Support

a. Rocket Launcher

SWITZERLAND

81mm SNORA Oerlikon Rocket
Weapon System (in-service)

3. Air Defense

a. Cannon

FRANCE

25mm Model 811 Cannon

SELECTION CRITERIA FOR FUTURE EQUIPMENT

In the following section we will use the linkage model framework (see Figure 3-1) to outline the selection criteria for future equipment in the Infantry Division (Light). A recurrent problem with the U.S. Army acquisition program has been the tendency to match technologies with threats in terms of equal modernity and sophistication, which are deterrent measures, but not necessarily a combat match. Another common tendency has been to look only at what a new equipment "might" be able to do, without considering whether the gain is marginal or negligible. Other important factors in determining the ultimate choices of technologies or equipment are budgetary constraints, and the economic interest in promoting U.S. arms export capability. A discussion of these factors is outside the scope of this thesis. Instead this author has sub-divided the selection criteria on those technologies and equipment that could make an "order-of-magnitude" difference in the overall performance of the Infantry Division (Light) into various factors. Admittedly, some of these factors which we take into account do not fall into one specific sub-heading; they may belong to other categories as well. The list below is in no way complete.

a. Revised Missions.

(1) What is the importance of the mission that the equipment will help accomplish?

(2) How does the equipment affect the overall effectiveness of the Infantry Division (Light)? How wide a range of missions will the equipment have an impact on? Will it affect a mission in one environment, or will it apply broadly across missions and environments?

(3) Will it allow us to do something that was impossible before the introduction of the equipment? Or does the equipment merely provide an evolutionary substitute to an existing item?

b. Threat.

(1) Does the equipment exploit a peculiar weakness of the Soviets, especially the Soviet airborne forces or any other Soviet proxies? (See Table 4-3).

(2) To what extent is the equipment exploiting the U.S. qualitative superiority in technology?

(3) Will the introduction of the equipment change significantly the existing U.S.-USSR force correlation in a Third World environment?

(4) How soon will the equipment be countered by a

Soviet response?

c. Equipment Operational Requirements.

(1) How simple is the equipment to use in an operational environment? Will it simplify the way we train the soldiers? Will it have little or no effect on maintenance?

(2) Does the equipment affect an area where no viable alternatives exist, or does it find itself confronted with several viable, if not cheaper alternatives?

(3) How soon will the equipment be replaced by another item which provides a probable long-term solution to the operational requirement?

d. Fiscal and Manpower Constraints.

(1) Is the technology uniquely military, or is it capital-intensive, or does it require unique facilities? If this is so, can the R & D costs associated with the candidate equipment be amortized over its service life?

(2) Will the introduction of the equipment radically reduce cost, or is it likely to raise costs in the long-term?

(3) Will there be any reduction in manpower?

Table 5-3 lists some of the technologies and equipment that

could make an order-of-magnitude impact on light infantry capabilities from the standpoint of either mission critically, performance, or threat. Selection is based on the author's qualitative assessment of the above selection criteria factors.

TABLE 5-3: TECHNOLOGIES AND EQUIPMENT THAT COULD MAKE
AN ORDER-OF-MAGNITUDE DIFFERENCE TO THE LIGHT INFANTRY DIVISION

1. Squad Level: 2 x lightweight squad assault weapons (SAW); 2 x automatic rifle with built-in grenade launchers (AR/GL); 1 x precision-modified semi-automatic rifle (S-AR); lightweight S-ARs (with a collimator reflex sight and three-round burst capability); light fire-and-disposable antitank weapons (LAWs); and individual and weapon night-sights. The close-assault weapon will replace 2 x S-ARs when the squad is involved in MQUT or in close quarters patrol and ambush operations. Where possible, the SAW, AR, and S-AR should have certain parts commonality. Existing small arms ammunition for the SAW, AR, and S-AR should be replaced by caseless or combustible cartridge ammunition. Ammunition for the close-assault weapon will include: HE fragmentation round, dual-purpose (AP/AT) round, and flechette round.

2. Platoon Level: The platoon will not hold organic weapons heavier than those at the squad level.

3. Company Level: 3 x 60mm long range gun-mortars; 3 x medium-range antitank weapons (preferably a MAW which has FOG-M and top-armor attack capability); 3 x 30mm automatic self-powered cannons mounted on

HMMWVs and STINGERS with POST or RMP. It has been clearly demonstrated that the 30mm cannon or equivalent with an optical fire control, besides an anti-AFV capability, can be used against low-flying aircrafts and helicopters.

4. Battalion Level: 6 x 120mm mortars; 3 x automatic grenade launchers; 6 x hypervelocity externally mounted guns or missile launchers (HVMs) and sufficient stocks of MAWs with FOG-M capability; 6 x 30mm automatic self-powered cannons and STINGERS with POST or RMP. All the battalion support weapons are either mounted on or towed by the HMMWVs. Besides a man-portable capability, the 120mm mortar should be able to fire terminally-guided dual-purpose conventional munition.

5. Division Level.

a. Fire Support: 3 x battalions of 160mm mortars; 1 x battery of improved 155mm towed howitzers with auxiliary propulsion capability; 1 x battalion of attack helicopter (AH-1S COBRA or AH-64A APACHE).

b. Air Defense: 1 x ADA battery each of pedestal mounted STINGERS (PMS) and radar-controlled antiaircraft guns. The firing teams are linked with forward area alerting radars (FAAR) to the air battle management operations center (ABMOC) as part of SHORAD C².

c. Tactical Mobility: Significant weight reduction in the

HMMWV and the UH-60A Black Hawk by using advanced lightweight composite materials. The product improved Black Hawk will have better reliability and survivability; longer range; and be fitted with external stores support system (ESSS) so as to carry out other support tasks, e.g. aerial-mine dispensers and reconnaissance packages.¹⁰

SUMMARY

In this chapter we have reviewed the technologies and weapon systems that are applicable to the Infantry Division (Light). A summary of the major findings is given below.

a. Predictive failures and problems in military technology. There is an intrinsic difficulty in predicting future military technology accurately. But that should not deter us from deriving a set of logical inferences and deductions from past experience and informed insights. The second critical point relates to the inherent bureaucratic inertia and the general lack of interest of the "high technology" R & D industries in infantry-related equipment. Bureaucratic inertia has a tendency to burden the innovative impulse with cumbersome intellectual and political considerations. The defense industries' R & D focus has been on the development of mechanized warfare armaments. Tactical requirements of the light infantry have received little or no attention.

b. Review of equipment requirements for the Infantry Division

(Light). Three approaches are used to review the equipment requirements, namely: "bottom-up" approach of near across-the-board increases in equipment performance parameters; cross-cutting and fitting-in approach of state-of-the-art advances; and "top-down" approach of early identification of new technology with tactical potentials and the subsequent developments of such tactics for its employment.

c. Current U.S. and foreign countries' R & D efforts on infantry-related equipment. Most of the technological requirements of the Infantry Division (Light) have been addressed by the Army's R & D program. Summaries of U.S. and foreign countries' R & D efforts on selected equipment are tabulated in Tables 5-1 and 5-2 respectively.

d. Selection criteria for future equipment. By using the linkage model framework as a starting point, this author provides a list of selection criteria factors for future equipment. Table 5-3 is a summary of the technologies and equipment that could make an order-of-magnitude difference in the performance of the light infantry.

ENDNOTES

¹General John A. Wickham, Jr., White Paper 1984: Light Infantry Divisions: 2.

²Rodney W. Jones and Steven A. Hildreth, Modern Weapons and Third World Powers (Boulder: Westview Press with CSIS, 1984): 64-65. Many studies have indicated that military technology is less crucial to the outcome of conflict than military organization, training, and fighting skill. For example, Harold Brown, in "Technology, Military Equipment, and National Security," Parameters (March 1983), believes that technological quality, quantity of materiel, and size of forces cannot be counted on as substitutes for morale, political and military strategy, and superior generalship. See also Steven L. Canby, "The Operational Limits of Emerging Technology," International Defense Review (June 1985): 875. Canby argues that even though new technologies may change the techniques by which things are done in war, technologies will change neither the nature of activities, such as intelligence gathering, commanding, striking, protecting and moving about, nor the principles by which they performed, such as surprise, concentration of force, economy of force, security, etc.

³Special Report Series: No. 6 The Soviet Military Technological Challenge (Washington, DC: Center for Strategic Studies, September 1967): 4. George H. Heilmeyer, "Military Technology Policy: 2001," Defense Science 2001+ (August 1983): 7. See also Brown, loc. cit.,: 18. In this article, Brown states that one of the U.S. comparative advantages as against the Soviet Union is the relatively low cost of incorporating high technology into U.S. military equipment. In contrast, a low technology-high manpower mix is more advantageous to the Soviets, who lag behind in technology but have greater numbers.

⁴Friedrich Engels, Herr Eugen Duhring's Revolution in Science (Anti-Duhring) (New York: International Publishers, 1939). Written

in 1878. Cited in Barry J. Smernoff, "The New Faces of Conflict: Some implications of the Military Innovation Process for 1980-2000," in John J. McIntyre, (ed.), The Future of Conflict (Washington, DC: National Defense University Press, 1979): 89-92. For an excellent discussion of such failures as they relate to technological projections, see Arthur C. Clarke, Profiles of the Future: An Inquiry into the Limits of the Possible (New York: Harper & Row, 1973).

⁵U.S. Congress, House, National Resources Committee, Technological Trends and National Policy, Report of the Subcommittee on Technology to the National Resources Committee, House Documents, Vol. 18, No. 360, 75th Congress, 1st session, 1937 (Washington, DC: Government Printing Office, 1937). Cited in Smernoff, loc. cit., :90-91.

⁶D. G. Brennan, "Weaponry," in Toward the Year 2018, edited by the Foreign Policy Association (New York: Crowles Educational Corporation, 1968). Steven L. Canby, Classic Light Infantry and New Technology: Forward.

⁷Canby, Ibid., : 47-52. In this chapter, Canby discusses on the three approaches: "bottom-up" approach of near across-the-board increases in equipment performance parameters; cross-cutting and fitting-in approach of state-of-the-art advances; and "top-down" approach of early identification of new technology with tactical potentials and the subsequent developments of such tactics for its employment. This author ignores the fourth method advocated by Canby -- the iterative process of operational testing to test and confirm hypotheses and to generate additional ideas -- because of the lack of unclassified source materials such as DT/OT reports.

⁸Edward N. Luttwak, An Historical Analysis and Projection for Army 2000, Part II: Analysis and Conclusions: 55-71. Colonel Norman L. Dodd, "Infantry Tactics and Weapons in the British Army," Asian Defence Journal (September 1984): 98-109, provides a useful overview.

⁹In the U.S. Army there is a renaissance in mortars. Captain Arthur A. Durante, "A Heavy Mortar for a Light Division," Infantry (January-February 1984): 11-12, supports Luttwak's recommendation to substitute 120mm mortars for the 107mm mortars in the heavy mortar platoon in the battalion. He also argues for a similar replacement of the light division's 105mm howitzers by the 120mm mortars. Canby, while agreeing on the need to replace the 105mm howitzers, concludes that the mortar should be between 160-200mm. The advantages of the 120mm mortar over the 105mm howitzer are given in Durante's article. The Canadian Army has recently fielded a number of Hotchkiss-Brandt

120mm rifled mortars in their heavy mortar platoon within the infantry battalion. This radical change in thinking may be attributed to the increased possibility of 'smart' 120mm bombs for the attack of armor. An historical example which supports the substitution of field artillery by mortars is the Japanese Malayan Campaign during World War II. At the start of the campaign, the Japanese field artillery consisted of 75mm guns and 105mm howitzers but ended with a preponderance of mortars. See Stanley L. Falk, Seventy Days to Singapore (New York: G.P. Putnam's Sons, 1975): 29, and Paul W. Thompson, Harold Doud, and John Schofield, "The Jap Army," Infantry Journal (New York: H. Wolff, 1942): 116.

¹⁰Luttwak, loc. cit.,: 73-77.

¹¹Canby, loc. cit.: 53-108. The functional elements considered in the study include: attack; covering force; flank security; main defense block; open flanks and lines-of-communication protection; fire support; and long-range volume fire. Although the equipment requirements developed by Canby are primarily for mountain infantry operating in the Zagros Mountains, the requirements are ideally suited for the tactics of adjunct light infantry. This author decides against the inclusion of Canby's Qualitative Material Requirement XII: Volume-critical Fire Support because the recommended glide bomb is really outside the purview of the Army. One additional requirement Canby develops for the adjunct infantry is that of a self-contained terminally guided system (SCTGS). A discussion of the pros and cons of arraying requirements in this manner is given on p. 54.

¹²See Endnote 9.

¹³Harry V. Martin provides an excellent update on the HTLD in "AirLand Battle Tactics Demand High-Tech Equipment," Defense Systems Review (October 1983): 13-20. The thirteen operational/tactical requirements for the HTLD are (1) fight deep within the areas of influence, (2) orient on the enemy -- not terrain, (3) contain enemy strength, (4) by-pass enemy strength, (5) attack high value targets from flank/rear/air, (6) deceive the enemy to gain surprise, (7) attack critical/vulnerable subsystems, (8) be prepared to fight in own rear area, (9) synchronize the AirLand Battle, (10) organize responsive support elements, (11) exploit superior distributive command, control, communications, and intelligence, (12) complement heavy forces, (13) sustain the force. The other priority programs not mentioned include: aviation; NBC; deceptions; and command, control and communications.

¹⁴Eric C. Ludvigsen, "Light Forces Reshaping Modernization Program," Army 34 (October 1984): 324. According to Ludvigsen, there are ten major areas of R & D emphasis. The other two areas which this author omitted have no direct significance on the development of equipment for the light infantry forces.

¹⁵Ibid., 317-498. See Ian V. Hogg, (ed.), Jane's Infantry Weapons 1985-86, Eleventh Edition (New York: Jane's Publishing Inc., 1985), Christopher F. Foss, (ed.), Jane's Armour and Artillery 1985-86, Sixth Edition (New York: Jane's Publishing Inc., 1985), United States Army Weapon Systems 1986 (Washington, DC: US Government Printing Office, 15 January 1986).

¹⁶Ludvigsen, loc. cit.,: 481.

CHAPTER SIX

CONCLUSION

The real object of having an Army is to provide for war.¹

Elihu Root

PURPOSE

The purpose of this thesis is threefold: (1) to identify the threat and dangers likely to have an impact on the mission accomplishment of the Infantry Division (Light) in the 1990s; (2) to ascertain the revised missions of light infantry forces; and (3) to suggest some of the emerging technologies and weapon systems that could make an order-of-magnitude difference to the Infantry Division (Light) capability.

The thesis is written with the following assumptions:

- a. General war or nuclear exchange between U.S. and USSR is highly unlikely in the next two decades;
- b. The U.S. has a general interest in the stability and

development of the Third World, an arena where the U.S. and USSR continue to compete for preeminence in the global order:

c. The Infantry Division (Light) will be employed across the conflict spectrum, especially in low-intensity conflict; and

d. The U.S. will continue to maintain a decided advantage in high technology, an area which will contribute significantly to increased combat effectiveness.

THE STRATEGIC AND TACTICAL ENVIRONMENTS IN THE 1990s

Research on the strategic and tactical environments in the 1990s indicated that:²

a. The nuclear and conventional balance in Europe is relatively stable, implying that a general war in NATO-Europe is highly improbable and that the probability of direct U.S.-USSR confrontation elsewhere is low.

b. Future conflicts are more likely to take place in Third World countries which have political, social, or economic problems. Such conflicts, although mid- to low-intensity in nature, will threaten U.S. economic interests.³ Most low-intensity conflict will not be strategically decisive, but in those cases that could be so because of escalation potential, U.S. deterrent and rapid-response capabilities will be required.

c. The U.S. is ill-prepared to cope with low-intensity conflict because:

(1) Much of the U.S. Army is trained and equipped to fight an attrition war against the Warsaw Pact and remains unsuitable for rapid deployment to Third World contingencies.

(2) U.S. policymakers are often not acquainted with the local causes, nuances, balance of forces, and dynamics of the conflict.

(3) Most low-intensity threats are not amenable to military solutions but require the integrated application of a variety of tools and approaches.

d. Third World conflicts and instabilities will place increasing strains on the limited U.S. resources. Therefore, the U.S. needs to develop a strategy that could, besides deterring the Warsaw Pact in NATO-Europe, neutralize low-intensity conflict or at least ameliorate its adverse effect. In developing this strategy, the U.S. needs: (1) to be selective in its involvement, which will require multilateral cooperation; (2) a better understanding of the problems in the conflict, including the ramifications of xenophobia, and differences in pain thresholds of belligerents; and (3) highly trained, rapidly deployable light forces.

e. On the tactical level, the nature of the future battlefield will retain many of the characteristics that have been

evolving since World War II. Most of the weapons such as tanks, artillery, and infantry weapons will be improved, but they will not be fundamentally different, except to the extent that they are increasingly automated. Even then, no single weapon system is expected to dominate the battlefield.

THE THREAT

Forecasting patterns of Soviet political and military behavior is a difficult but necessary task for meaningful defense planning; and it is important for us to realize how the potential threat's weapon and military capabilities will affect successful mission accomplishment. To this end, one assumption which we are inclined to adhere to is that the basic behavior patterns of the Soviets in the past will continue, much along established lines. Some possible patterns of future Soviet political and military behavior include:

a. Soviet behavior may be expected to exhibit the same elements of assertive opportunism combined with caution as before and to remain in a low profile, where possible;

b. The Soviet Union will seek to improve its global status by eroding the U.S. preeminence in the Third World;

c. The Soviet airborne forces will be a key component of any direct intervention by the Soviet Union, especially in areas of vital USSR interests;

d. The Soviet Union will rely on low-risk proxy operations and military assistance to aid liberation movements in Third World; and

e. The Soviet arms transfer to the Third World countries, especially in those countries the Infantry Division (Light) might be employed, will represent a positive threat to possible U.S. responses against Soviet-backed operations.

As with most Soviet military developments, little or no information is available on future weapon systems, in particular those earmarked for Soviet airborne troops. Nevertheless, we can assume that, all things being equal, the Soviet Union will increase their R & D efforts so as to surpass U.S. military technological capabilities and to restore some measure of flexibility to their foreign policy. A second assumption is that the Soviet Union will continue to field evolutionary substitutes of their conventional armaments.

THE LESSONS OF HISTORY

Historically, the U.S Army has somewhat limited experience in designing and employing light infantry division-type forces. Earlier light infantry forces have had the following characteristics:⁴

a. An all-purpose infantry deemed suitable for worldwide generalized deployment;

b. Regular infantry made light, by simply reducing its vehicular scales and lighter artillery for greater strategic mobility;

c. Organized, and equipped for positional set-piece combat, though requiring augmentation for sustained combat.

In contrast, foreign armies' experiences with light infantry far exceed that of the U.S. However, most foreign light forces are usually of brigade size, highly elite, context-specific and unburdened by any overseas constraint. In addition to a primary role as an interventionary force, that is, if the country has strategic overseas interests, the light infantry is used in special operations and economy of force missions.

FUTURE MISSIONS FOR LIGHT INFANTRY FORCES

General conclusions drawn from earlier research on the utility of Infantry Division (Light) in Chapter 3 indicated that it has a place within the U.S. Army force structure. Although it was designed primarily as a conventional deterrent force for low-intensity conflict, it can perform tactical and operational economy of force missions in a mid- to high-intensity environment. For such economy of force missions, light infantry forces should be organized to take advantage of the terrain, that is, in brigade-size instead of the present divisional structure. Some of the missions which can be assigned to light infantry forces are:

a. Demonstrate U.S. national resolve with a credible conventional deterrent force.

b. Conduct preemptive maneuvers to foil Soviet hegemonic intrusions into Third World countries of vital interests to the U.S.

c. Respond to Soviet-backed proxy intervention in areas of important interests to U.S.

d. Fight in close and compartmentalized terrain or a low force density areas of operation.

e. Defend in a mature theater as either a forward-deployed or reinforcing formations.

f. Conduct counterinsurgency operations, military assistance or advisory programs at the request of a legitimate government in low-intensity conflict theaters.

g. Execute peacetime contingencies such as coup de main operations, peacekeeping missions, countering terrorism, protection or evacuation of U.S. nationals from areas of conflict.

h. Act as a strategic reserve which is capable of rapid deployment at short notice.

i. Relieve forward-entry units (e.g., airborne division, marine expeditionary brigade, Rangers units) and continue to secure forward operating bases in support of U.S. worldwide military contingency operations.

The principal arguments against the concept and utility of the

Infantry Division (Light) are summarized below.⁵

a. The strategic versatility of the Infantry Division (Light) may negate its operational capability. The division may become both a specialty force inappropriate to all but a narrow range of scenarios and an all-purpose force that cannot respond to specific crises.

b. Even though the Infantry Division (Light) is optimally designed for operations at the lower end of the conflict spectrum, there is no reason to assume that its use will or can be limited to confronting lightly-armed opponents. Given the massive Soviet arms transfer to the various Third World countries, especially in those regions the Infantry Division (Light) might be employed, opposing forces may well be heavily armed with sophisticated weapons.

c. Rapid intervention forces such as the Infantry Division (Light) must be able to survive once deployed. For strategic mobility reasons, the division is found lacking in firepower, sufficient tactical mobility, sustainability, and survivability.

It is important for us not to exaggerate the problems of the Infantry Division (Light) and thus either preclude its future employment or be forced to accept without question its reduced capability. Admittedly, the Infantry Division (Light) will not have the firepower, mobility, sustainability, and survivability of heavier mechanized forces, but the superiority of light infantry forces resides in their versatility -- they possess stability in defense, a

certain flexibility in attack and can act through the "law of destruction by fire."⁶ Recent histories have shown that success in modern conflict is not solely dependent on the quality of equipment or sophistication of technology. Nevertheless, conventional weapons and technology can still alter the balance in a conflict or decide a military outcome when all other considerations between adversaries are equal. Because technology continues to be a major U.S. strength relative to its potential adversaries, this author looks to the various emerging technologies to help resolve the problems in equipping the Infantry Division (Light).

FUTURE EQUIPMENT FOR THE INFANTRY DIVISION (LIGHT)

Weapons and equipment designed for light infantry forces must meet their operational requirements. Unfortunately, this is not always the case. Some of the recurrent tendencies with the U.S. Army acquisition program are:

- a. To ignore the planned synergism between tactics and technology and not to incorporate the proper tactical perspectives into equipment requirements.
- b. To match technologies with threats in terms of equal modernity and sophistication, which are in themselves deterrent measures, but not necessarily a combat match.
- c. To look only at what the new equipment "might" be able to

do without considering whether the gain is marginal or negligible.

d. To overemphasize the "elusive state-of-art advances" which in turn affect the overall readiness of U.S. forces.⁷

In an attempt to avoid these pitfalls, this author adopts the three approaches outlined in Steven L. Canby's Classic Light Infantry and New Technology to review the equipment requirements for the Infantry Division (Light). The three methods used are:⁸

a. Survey the equipment in use by some foreign armies and then project how the equipment and its underlying technology could assist in developing light infantry capabilities.

b. Analyze the doctrine and tactical repertoires required and expected of light infantry and then suggest the technology or equipment that could facilitate the execution of the mission and component tasks.

c. Survey R & D centers in U.S. and abroad and then project how circulating technological possibilities could assist in developing light infantry capabilities.

Summaries of the equipment requirements, using these approaches, are presented in Chapter 5.

The linkage model framework (see Figure 3-1) is used, in turn, to outline the selection criteria for those technologies and equipment that could make an order-of-magnitude difference to light infantry

capabilities. A qualitative assessment of those emerging technologies and equipment provides the following list.

a. Squad Level.

- 2 x lightweight squad assault weapons
- 2 x automatic rifles with built-in grenade launchers
- 1 x precision-modified semi-automatic rifle
- 5 x lightweight semi-automatic rifles (2 x close-assault weapon systems will replace the 2 x S-ARs when the squad is involved in MQOUT or in close quarters patrol and ambush operations)
- Sufficient light antitank weapons

b. Platoon Level. The platoon will not hold any organic weapons heavier than those at the squad.

c. Company Level.

- 3 x 60mm long range gun-mortars
- 3 x medium range antitank weapons with FOG-M and top-armor attack capability
- 3 x 30mm automatic self-powered cannons mounted on HMMWVs
- STINGERS with POST and RMP

d. Battalion Level.

6 x 120mm heavy mortars (able to fire terminally-guided dual-purpose conventional munition)
3 x automatic grenade launchers
6 x hypervelocity external guns or missile launchers
6 x 30mm automatic self-powered cannons
STINGERS with POST and RMP
Sufficient stocks of MAWs with FOG-M capability

e. Division Level.

(1) Fire Support.

3 x battalions of 160mm very heavy mortars
1 x battery of improved 155mm towed howitzers with auxiliary propulsion capability
1 x battalion of attack helicopters (AH 1-S COBRA or AH-64A)

(2) Air Defense.

1 x ADA battery of pedestal mounted STINGERS
1 x ADA battery of radar-controlled antiaircraft guns

(3) Tactical Mobility.

Significant weight reduction in HMMWV

Improved Black Hawk with a longer range, external
stores support capability

CONCLUSION

To conclude on a cautionary note, the U.S. Army is in the midst of a period of revolutionary change in military technology -- a period of vital importance for light infantry forces. Over the next decade or two, light infantry forces will be transformed radically in their doctrine, modes of operation, and capabilities. If the U.S. Army controls the process of change appropriately, the Infantry Division (Light) is likely to become, in General John A. Wickham, Jr.'s words, "the world's finest light infantry."⁹ If the U.S. Army fails to face the full implications and challenges of these changes, the Infantry Division (Light) will not be effective enough to fight in new ways or large enough to fight in old ways. By providing the light infantry forces with the equipment listed above, the U.S. Army will insure that light infantry forces can be deployed rapidly and be able to survive once deployed. Other prescriptive requirements for the future include:

- a. Establish a separate infantry branch headquarters to formulate and coordinate all matters pertaining to light infantry

forces;

b. Develop doctrine(s) to capitalize on the infantryman's technical capability and tactical skills; and

c. Train light infantry troops in other means of assault, i.e. airborne and air assault techniques, so as to enhance their operational flexibility.

ENDNOTES

¹Elihu Root, Annual Report to the Secretary of War for the Year 1899 (Washington, DC: US Government Printing Office): 47.

²Many authors have written on the future strategic and tactical environments. See, for example Robert H. Kupperman and William J. Taylor, Jr., (eds.), Strategic Requirements for the Army to the Year 2000 (Lexington, MA: Lexington Books, 1984); John J. McIntyre, (ed.), The Future of Conflict (Washington, DC: National Defense University Press, 1979); Rodney W. Jones and Steven A. Hildreth, Modern Weapons and Third World Powers (Boulder: Westview Press with CSIS, 1984). Roger A. Beaumont, "Military Elite Forces: Surrogate War, Terrorism, and the New Battlefield," Parameters (March 1979); George H. Heilmeyer, "Military Technology Policy: 2001," Defense Science 2001+ (August 1983).

³Jones and Hildreth, Ibid.,: 96. To the U.S., the Third World is both a market for U.S. exports and a source for raw and strategic materials. William Clausen, president of the World Bank, recently estimated that by 1990 the Third World will be producing 25 percent of the world's GNP.

⁴Steven L. Canby, Classic Light Infantry and New Technology (DARPA Contract No. MDA 903-B1-C-0207, December 1982): Executive Summary.

⁵There are many articles which question the concept and utility of the Infantry Division (Light). See William J. Olson, "The Light Forces Initiative," Military Review (June 1985); Michael R. Gordon, "The Charge of the Light Infantry -- Army Plans Forces for Third World Conflicts," National Journal (19 May 1984); Edwin W. Besch, "Are Our Light Divisions Too Light?" Army (February 1985); Tony Velocci, "The New Light Divisions: Will It Work?" National Defense (November 1984).

⁶This is how Clausewitz judged the role of infantry. Cited in Brigadier General Ernst Klauffus, "The Infantry -- Thoughts on Weapons and Protection," NATO's Sixteen Nations (December 1983-January 1984): 36. In much a similar vein, John English urges the military planner, when assigning missions to the infantry, to capitalize on "the twin pillars of infantry strength" -- the infantryman's technical capability and tactical prowess. John A. English, On Infantry (New York: Praeger, 1981): 217.

⁷The U.S. Army can no longer depend upon the stimulus of a war to provide it with the means to wage that war. The lead time of most equipment -- the time required to develop a new weapon system from concept to its fielding in an operational force -- is sometimes comparatively long. As a consequence of long lead times, the equipment designed and provided to forces in peacetime will be that in use during the next conflict and will largely determine the outcome. Special Report Series No. 6 -- Soviet Military Technological Challenge (Washington, DC: Center for Strategic Studies, September 1987): 1-4.

⁸Canby, loc. cit.,: 51.

⁹General John A. Wickham, Jr., White Paper 1984: Light Infantry Infantry Divisions: 5.

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