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U.S. ARMY COMMAND AND GENERAL STAFF COLLEGE
FORT LEAVENWORTH, KANSAS

Abstracts Of Master Of Military Art
And Science (MMAS)
Theses And Special Studies
1980-1981
Annual Edition

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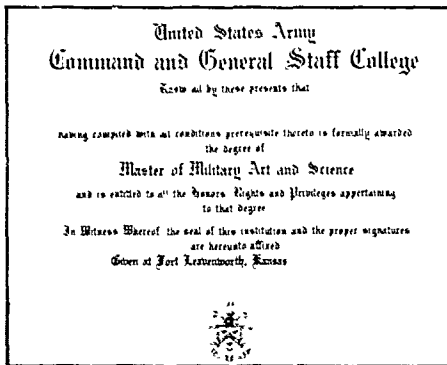


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**THE DEGREE
 MASTER OF MILITARY ART AND SCIENCE**

On 5 August 1974 legislation was enacted authorizing CGSC to award the degree, Master of Military Art and Science (MMAS), an authority originally requested in 1964. The legislation prescribes that the MMAS program require a thesis; also, that the College must attain affiliate or member status with the North Central Association of Colleges and Schools prior to the award of any degree. Included in the statute was authority for retroactive awards to the 181 officers who had successfully completed the MMAS requirements in previous years. On 31 March 1976 the College was granted full accreditation as a masters' degree-granting institution by the North Central Association of Colleges and Schools.

The establishment of a formal degree-granting program with the full approval of the civilian higher education community represents signal recognition for the quality of military education in general and for CGSC in particular. The degree implicitly testifies that the military profession has its own scholastic discipline, Military Art and Science; and, that insofar as the Army-in-the-field is concerned, CGSC is the source of this discipline. For those receiving degrees, the award constitutes a badge of military scholarship and is a deserving recognition for successful completion of a rigorous program. The College is proud to be the only institution to award this graduate professional degree.

FOR THE COMMANDANT:


 HAROLD L. JOHNSON
 Lieutenant Colonel, Infantry
 Acting Secretary

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HOW TO USE THIS BOOK

This edition brings together all abstracts of Master of Military Art and Science (MMAS) theses completed at CGSC from 1980-1981. The subject section is designed to fit the areas of research emphasized by the MMAS student. Because of the primary military thrust of the subject matter, headings such as "U.S. Army," "War," or "Combat" have been omitted in favor of more precise captions.

Some titles have been listed in several places in the subject section, as appropriate. The numbers following the subject heading correspond to the titles in the list of theses, by year of completion. Abstracts and the number of pages in the theses are found in the body of the volume.

Copies of theses written after 1975 have been placed on file in the Defense Technical Information Center (DTIC) and are available for public use. They can be requested from the following address:

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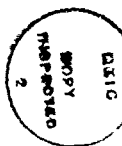
The opinions and conclusions expressed in the enclosed abstracts are those of the authors and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other Government agency.

An author list is in the back of the volume.

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401. THE EFFECTS OF NUCLEAR RADIATION ON TACTICAL AERIAL RECONNAISSANCE FILMS, by Major Norman L. Allred, USAF, 53 pages.

This study examines the effects of nuclear radiation on tactical aerial reconnaissance films and attempts to assess the level of understanding the people who work with tactical aerial reconnaissance films have about those radiation effects.

Investigation revealed that few tactical aerial reconnaissance people know about the effects of radiation on the films used and do not know the levels of radiation that will render film no longer usable. Investigation also showed that when experienced tactical aerial reconnaissance personnel were introduced to the problem of radiation damage to film, they were able to suggest ways to counter the problem.

Recommendations stress ways to educate tactical aerial reconnaissance personnel about the effects of radiation on film. Procedure changes are also recommended to preserve tactical aerial reconnaissance capabilities in a potential nuclear environment.

402. TRAINING MANAGEMENT AND PERSONNEL TURBULENCE, by Major James A. Amendolia, USMC, 93 pages.

This study determined the relationship between the Army Training and Evaluation Program (ARTEP) and personnel turbulence. The investigation focused on the US Army experience with personnel turbulence in World War II, personnel turbulence in contemporary units, the training management functions, and the ARTEP.

Investigation revealed that there is a positive relationship between personnel turbulence and the validity of the ARTEP evaluation. The ARTEP evaluation would be an effective training management sub-system if personnel stability within a unit were achieved for a period of time to complete the ARTEP cycle.

403. COALITION WARFARE DURING THE ALLIED INTERVENTION IN NORTH RUSSIA, 1918-1919, by Major Bruce S. Beals, IN, 105 pages.

Two months before World War I ended, the President of the United States, along with the leaders of Great Britain, France, Italy, and several other Allied nations, committed nearly 20,000 soldiers to war in North Russia. Almost a year after the armistice on the Western Front, Allied troops were still fighting in the snowy wastes of a far-off, strange land, for unclear and ambiguous reasons.

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This thesis examines the background to the intervention, the relationships between the Allies, the allied military operations, and the reasons for the ultimate failure of the North Russian Expeditionary Force. The study focuses on the decisions that led to the intervention at Archangel, the command relationships between the primary military and political players, and the impact of the unique characteristics of each of the allied forces on the conduct of combat operations against the Bolsheviks.

Source material for this study has been taken from the accounts of American, British, and Canadian officers, after-action reports, and unit histories. Other information comes from French, Canadian, Australian, English, and American sources.

The impact of the extremes of weather, vastness of the country, ubiquitous nature of the enemy, length of supply lines, lack of fire support, confusion of the command structure, and distinct motives of each of the allied forces all combined to spell the inevitable failure of the allies in North Russia. This thesis scrutinizes each of these elements and concludes by discussing those crucial factors that influenced the coalition warfare effort.

404. RUSSIA, RELIGION, AND THE ROSARY: CAN RELIGION BE A U.S. WEAPON AGAINST THE SOVIET UNION? by Lieutenant Colonel Frank A. Brewster, MC. 86 pages.

Christian theology can be a practical strategic weapon against the U.S.S.R. First, the essence of religious practice can denote Communism as a religion. Second, religions historically and currently are strategically important. Third, religion causes Soviet Union leadership to respond in a reactionary manner. Fourth, religion historically is of high value in the United States of America. Fifth, the United States can use religion as a strategic weapon against the U.S.S.R. The use of religion as a weapon can take three strategies: (1) Increase the interreligious tensions between Islam, Orthodox Christianity, Buddhism, and Communism in the Soviet Union, (2) cultivate the growth of the Christian virtues throughout the society in the U.S., and (3) to foster United States reliance upon the use of the supernatural act of prayer.

405. UNCONVENTIONAL WARFARE IN SUPPORT OF THE UNIFIED COMMANDS, by Major George L. Brown, USA, 220 pages.

This study examines the role and function of Unconventional Warfare forces in support of the Unified Commands. Its purpose is to determine if a requirement exists to establish Joint Unconventional Warfare Commands and

subordinate units in support of the established Unified Commands. Methods of research include examination of current doctrine, historical research informal survey, and subjective analysis.

Initially the Unified Command Plan, the Joint Strategic Planning System, and the characteristics of Unconventional Warfare are examined. This is followed by a discussion of each Unified Command to include threat, mission, and Unconventional Warfare tasks. Lastly, current Unconventional Warfare forces and historical lessons from Unconventional Warfare and training exercises are examined.

The study concludes that Joint Unconventional Warfare Commands must be established to support the Unified Commands. In addition, the reason for previously not having established Joint Unconventional Warfare Commands, the impact of maintaining the status quo, and the cost of proposed changes are discussed. Specific recommendations are made for each Unified Command.

406. ENGINEER COMMAND/CONTROL ALTERNATIVES AND ORGANIZATIONAL OPTIONS AT THE MANEUVER BRIGADE LEVEL, by Major Robin R. Cababa, USA, 232 pages.

This study investigates the engineer command/control alternatives and organizational options at the maneuver brigade level. There is, at present, no doctrinal guidance which guides the divisional engineer company commander in the organization of a brigade's engineer assets or the manner in which these assets should be controlled.

The study develops in detail the engineer requirements for 2nd Brigade, 23rd Armored Division (scenario from P313/P315, Defensive Operations, U.S. Army Command and General Staff College). The baseline engineer capabilities for the 2nd Brigade's engineer assets are then determined.

Two command/control alternatives and three organizational options, making a total of six combinations, are analyzed against four criteria. The criteria are effectiveness, resource demands, flexibility, and support to brigade staff and command. Conclusions and recommendations are drawn from this analysis.

The analysis revealed that the brigade engineer cell coupled with the engineer companies using a direct support organizational concept is the most effective combination. Further investigation in requirements determinations and optimum resource allocation is necessary to insure the effectiveness of this, or any other combination.

407. A STUDY OF THE ENLISTED QUALITATIVE MANAGEMENT PROGRAM AND ITS CONFLICT WITH HUMAN BEHAVIOR, by Major Arthur H. Coupe, USA, 52 pages.

The Qualitative Management Program established standards to insure the retention of highly qualified soldiers for the United States Army. The program, however, goes beyond reasonable standards by using nonprogression in rank as a discriminator for continued service. The policy not only fails to make maximum use of manpower resources, but also conflicts with human behavior and attitudes within our society. The focus of the research is the dichotomy between the attitudes and behavior within our society and the Army's nonprogression policy. Chapter II discusses the evolution of qualitative standards in the Army and the present nonprogression policy. In Chapter III selected human behavioral theories are presented to illustrate how individual needs influence behavior. Chapter IV analyzes the contrast between the expectations of the Army and the society that supports it. The study concludes that the nonprogression policy conflicts with human behavior because it forces soldiers to continually advance in rank regardless of their individual needs or capabilities. The Army should eliminate the policy and future standards for retention should be based entirely on performance.

408. THE STRATEGIC IMPORTANCE OF CARIBBEAN OIL FACILITIES TO THE UNITED STATES, by Captain Raymond J. Cully, Jr., USAR, 89 pages.

This study attempts to determine if the United States has a vulnerability to its oil import system involving Caribbean oil facilities. The investigation focuses on Caribbean refineries and petroleum handling methods such as transshipment from supertankers.

The study reveals that oil terminals and sealanes in the Caribbean ship or refine a large percentage of United States oil imports. Regional instability and its possible effects on the United States oil importation system are examined.

409. CORRELATES OF PSYCHOLOGICAL COMMITMENT, by Major Jonathan B. Dodson, USA, 100 pages.

From a theoretical model of the commitment process, this study determines correlates of commitment that contribute to an individual's overall positive orientation which is posited to outweigh the "thinking of quitting" process. These correlates cause people to cognitively, affectively, and behaviorally re-enter the mainstream of organizational activity. Commitment is defined as the extent to which people identify with

organizational goals, value membership in the organization, and intend to work hard to contribute to the realization of the overall organizational mission.

The research conducted with cadets at the United States Military Academy reveals that there are five correlates that affect their commitment to West Point: realistic challenge, Army service expectations, autonomy, determination, and prestige of West Point.

410. DEVELOPMENT OF DESIRABLE CHARACTERISTICS FOR AN ANTI-TERRORIST PLANNING GROUP, by Major Kermit Edney, Jr., USA, 83 pages.

This study attempts to determine a set of desirable characteristics which should be applied in developing an anti-terrorist planning group. The investigation centers around the anti-terrorist actions taken by Israel and West Germany in dealing with transnational terrorism.

The investigation reveals that Israel and West Germany reacted in dissimilar manners; however, there were characteristics common to both approaches that should be applied to a planning group in the United States. Further examination reveals the need for United States anti-terrorist planning groups to be organized around a set of internationally acceptable characteristics.

411. EMBARGOES: A FOREIGN POLICY WEAPON REASSESSED, by Major Warren C. Edwards, USA, 102 pages.

This thesis attempts to put into perspective the problem of vital resource interruption. The potential for economic warfare in an interdependent world is real. The events of the past decade have shown that modern states are, to some extent, vulnerable to vital resource interruptions. This paper demonstrates, however, that there are constraints on the use of embargoes and other forms of resource control. It also proposes a method by which a decisionmaker who is attempting to assess the prospects for controlling a resource might approach that assessment.

The study reveals that there are 16 conditions which will affect a producer's ability to exercise market control over a vital resource. These conditions are compiled from the ideas of various authors writing on the subject of resource control.

The study also demonstrates an approach to assessing these conditions and their effect on the use of resource control to attain a specific objective. It does this through the use of a decision table containing a series of questions and decision lines.

412. MILITARY OPERATIONS ON URBANIZED TERRAIN (MOUT) TRAINING FOR THE EUROPEAN ENVIRONMENT, by Major R. M. Epting, USA, 252 pages.

The tactical doctrine for Military Operations on Urbanized Terrain (MOUT) has been accomplished in FM 90-10 and ST 90-10. The training doctrine for battalion-sized units and smaller has been accomplished under the Battalion Training Management System (BTMS). Training managers are presently working on the techniques that should be employed for training in MOUT.

This thesis reflects research in MOUT training that is essential to combat, combat support, and combat service support units for successful operations in urbanized terrain and presents suggestions for training that may be used by those units in their training programs. The thesis is limited to battalion-level and lower echelons of combat operations in built-up areas (i.e., cities, towns, villages, and strip areas). The thesis also highlights areas that may not have been considered in FM 90-10 or BTMS but which will be of particular benefit to the squads, platoons, companies, and battalions in conducting combat operations in and around urban areas.

The thesis offers a common sense approach for battalion-level leaders and staff who are entering into the relatively new area of MOUT training for their units.

413. INDIVIDUAL INITIATIVE IN SOVIET COMBAT SUCCESS, by Major Joesph W. Eszes, USA, 117 pages.

This study investigates the question of individual initiative within the Soviet Army by examining elements peculiar to each of the three major players: the soldier, the non-commissioned officer and officer corps.

Each group is examined separately to ascertain specific strengths and weaknesses relevant to independent action, individual creativity and initiative as it might apply on the battlefield.

Finally, the players' collective strengths and weaknesses are melded together to provide a glimpse of how individual initiative might impact upon Soviet combat success.

The general conclusion of this study is the Soviet Army possesses systemic and institutional rigidity which stifles the individual soldier and leader thus degrading soviet capability for success in combat.

414. DEVELOPMENT OF TACTICAL MODELS FOR EMPLOYMENT BY COMPANY SIZED ARMORED/MECHANIZED UNITS UTILIZING 1986 EQUIPMENT, by Major Richard P. Geier, USA, 75 pages.

This study describes the 1986 armored/mechanized infantry equipment, force structure, and battlefield. The scope of this thesis is limited to the 1986 US Army's armor and mechanized infantry company team. Based on 1986 equipment, force structure, and the future battlefield, the study develops an innovative company tactical concept that uses all the capabilities of the US soldier, the new equipment, and force structure.

The investigation reveals the unsuitability of current company-level battledrill for a force equipped with the M-1 Abrams Tank and M-2 Infantry Fighting Vehicle. The alternative tactical concept, proposed in this study, is based on Air Force fighter tactics. A "wingman" concept is explored and expanded into a highly mobile and flexible combat formation. The study investigates the use of this formation for the combat missions of movement to contact, deliberate attack, exploitation, pursuit, covering force, counterattack, reserve, and deep-interdiction. The effort explores concepts for support of the M1/2 formation by combat support and combat service support assets available in 1986. This examination reveals that, while the formation can be supported by 1986 CS and CSS units, the optimal effectiveness of the M1/2 formation cannot be reached until a new generation of CS and CSS equipment is fielded.

415. STRATEGIC IMPLICATION FOR THE REPUBLIC OF DJIBOUTI OF A CONFLICT STUDY OF THE 1974-1977 PERIOD OF THE ETHIOPIA-SOMOLIA WAR IN THE HORN OF AFRICA, by Major Thomas A. Green, USA, 81 pages.

The Horn of Africa, eastern tip of the African continent, juts into the Indian Ocean trade routes. Along the northern boundary of the Horn are the Straits of Bab-el-Mandeb, the narrow southern passage which leads to the Red Sea, the Suez Canal, and the Mediterranean Sea. The Horn of Africa, the Arabian peninsula and the Persian Gulf are presently the focal point of a great power struggle. The struggle is strategic in nature. It is a war of position, power, politics, and timing. The target is critical terrain and the prize is oil.

Located in the narrowest point of the Straits of Bab-el-Mandeb, is the tiny nation of Djibouti. This country is almost a classic example of a post-colonial nation wracked with internal and external power struggles. Unlike other new African nations, however, Djibouti has no natural resources and a very small gendarmerie for an army. Yet Djibouti has survived for over 130 years as a French overseas territory and now as an independent state with French military support. Throughout the period of French

control, Ethiopia and Somolia rivaled each other to reclaim the tiny territory. The nation of Somolia, her southern neighbor, has claimed Djibouti as part of the "Greater Somolia Irredentist Movement." Ethiopia, Djibouti's northern neighbor, has also made claims on her relating to the original treaties made for French outposts and use of the harbor at Tadjoura.

War and unrest rages on the Horn. Somolia and Ethiopia are fighting over their mutual border in the Ogaden Desert. In Ethiopia Eritrian separatists continue to revolt while thousands of Cuban and Soviet soldiers bolster the military forces of Ethiopia.

In subsequent chapters I will discuss the theoretical overview and the relevant literature concerning both the historical study of Djibouti and the Horn of Africa and the development of a crisis model for the study of international conflict. The purpose of the study is to investigate a potential military threat to the Republic of Djibouti from the nations of Somolia and Ethiopia by compiling and analyzing reports of conflicting events between those two nations using a computer-generated model.

The study, (1) employs Leng's "Model of Behavioral Indicators of War Proness in Bilateral Conflicts"; (2) correlates frequency and magnitude of interactive events for Ethiopia and Somolia during the period of 1974-1977 (the beginning of the Ethiopia-Somolia War); (3) predicts the military threshold of the conflict; and (4) measures the decrease of cooperative acts. This study also employs a format similar to Singers' "Correlations of War Studies" done at the University of Michigan, 1974-1976.

After reviewing the relevant literature and data the study will analyze the interactive events of the last crisis build-up between the two nations, Ethiopia and Somolia, that are assumed to be the primary threat and compare these factors with current events. Using the results of the crisis model, the goal is to correlate these indicators to determine if the behavior of the threat nations might be used to establish a prediction of future conflict to the nation of Djibouti.

This study concludes that if Somolia continues its aggressive, relentless pattern of guerrilla war on her neighbors then Somolia statistically appears to offer the greatest threat to Djibouti in the next 5-10 years. It is obvious that more research and additional data are necessary and many more cases must be added to the data sources before an accurate prediction can be made. Research has given us only the foundation of understanding, controlling, and predicting wars.

416. A COMPARISON OF U.S.-SOVIET DOCTRINE FROM AN EGYPTIAN POINT OF VIEW, by Lieutenant Colonel Abdel Saleh Hafiz, Egypt, 147 pages.

This study analyzes the ground force tactical doctrine of the armed forces of the United States and the Soviet Union. It focuses on division and lower-level units and attempts to highlight the strengths and weaknesses of each country's doctrine.

Significant differences exist in the organizational structure and tactical philosophy of the army of each country. Soviet reliance on their experience in World War II leads them to place heavy reliance on armor, artillery, and the mechanization of other arms to achieve highly mobile units. The density of systems on the battlefield leads them to employ a limited span of control for their commanders, which requires a highly orchestrated and controlled battle within a centralized command and control structure. The United States, on the other hand, having participated in two wars since 1945, has developed reliance on sophisticated weapons and other systems which they believe will offset a quantitative inferiority. In addition, their system of command control, compared to the Soviets, places high reliance on decisionmaking at lower echelons.

417. LIBYAN INVOLVEMENT IN TERRORISM, by Lieutenant Colonel John Michael Handley, USA, 178 pages.

This study investigated Libyan involvement in transnational and international terrorism, to determine if such involvement has helped Libyan President Gadaffi secure his stated goals of the destruction of Israel, the creation of a Palestinian homeland, and the security of his own Libyan revolution.

The investigation included the historical development of Gadaffi's rise to power, the creation of the PLO (and its various fedayeen groups), and over 60 specific acts of terrorism in which there was Libyan implication of sponsorship or direct control. The impact of each terrorist incident was evaluated, both as a major or minor event, and as successful or unsuccessful. This evaluation was based upon the impact of the incident in accomplishing or promoting one or more of Gadaffi's goals.

The study revealed that Libyan involvement in support of terrorist groups has changed over the past 10 years. In the early 1970's, Gadaffi supported a variety of liberation movements and terrorist organizations. In the last half of the 1970's, this support was noticeably reduced, although admittedly still sizable. Although Libya continues to provide many terrorist organizations financial support, weapons, training facilities and safe havens, the emphasis today appears to be a reduction in the overall

support of these non-Libyan terrorist organizations while increasing the support of Libya's own Special Intelligence Service (SIS). The reasons for this change probably include Gadaffi's inability to exercise firm control over the non-Libyan groups and the remarkable "success" of recent SIS operations. Although the SIS, to date, has been largely targeted against Libyan expatriots, the potential exists for the use of these Libyan "execution squads" against Gadaffi's perceived political enemies. Such a potential poses a serious threat to the personal security of the political leaders of Egypt, Israel and the United States.

418. MODEL OF A GROUND COMMANDER'S CLOSE AIR SUPPORT GUIDE, by Major Donald F. Hayes, USAF, 82 pages.

This study develops a close air support planning and employment model for use by ground commanders below division level. The model is developed through an analysis of the history of close air support, the command and control structure and close air support characteristics. Each of these areas is examined to determine what the ground commander needs to consider in the employment of close air support.

The model presented begins with general planning considerations needed to effectively integrate close air support into the overall scheme of maneuver. A target analysis is then presented to determine first if it is possible to attack the target with close air support and then if close air support is the best choice of available fire support assets. The model concludes with a set of final considerations to be taken into account anytime close air support is employed.

Although the model does not take every variable into account, it does present the ground commander with a logical thought process and sound basis for employment of close air support.

419. CIVIL DEFENSE IN CENTRAL EUROPE AND ITS EFFECTS ON POLITICAL AND MILITARY LEADERSHIP, by Jurg Hostettler, Switzerland, 89 pages.

The study describes the Civil Defense status in Central Europe and compares it with an "ideal" Civil Defense model. All nations in Central Europe have organized a warning and alarm system; disaster relief and rescue organizations are operational in all countries. The protection of the population in terms of shelters and/or evacuation programs is, with the exception of Switzerland, weak or not existing.

The effects of modern warfare, to include chemical and nuclear weapons on the civil population are discussed. The study shows that an unprotected

and poorly informed population is extremely vulnerable; by staying at home some protection can be provided by the "Central-European-type" buildings and by a prewar information program.

Considering the vulnerability of the population, the dynamics and the lethality of the modern battlefield, and the "city hugging" tactics of the threat forces, this study shows that the Civil Defense gap in central Europe has a direct and profound influence on the political and military leadership. Major results include a reduced credible deterrent, limited options available to political leaders in prewar crisis, restrictions and limited options available to military leaders fighting the battle. The restrictions may be of such a serious degree that military and political missions can no longer be accomplished successfully.

420. THE LEGACY OF SUN TZU: THE ROLE OF THE "UNCONVENTIONAL" IN MILITARY STUDIES, by Lieutenant Colonel Jeong, Kook Bohn, Korean Navy Marine, 70 pages.

This study discusses the application of Sun Tzu's concept of the UNCONVENTIONAL in military thought and practice.

By analyzing military history from the point of view of the UNCONVENTIONAL, it is recognizable that the likelihood exists that in the future the UNCONVENTIONAL approach promise benefits similar to those conferred in the past.

This study also reveals that most of the victories on historical battlefields were ascribed to preparation for war with the CONVENTIONAL, fighting the battles with the UNCONVENTIONAL, that myriad applications of the UNCONVENTIONAL could be derived from military history, and that future battle commanders must be encouraged to think dialectically.

421. THE INDIAN OCEAN--AN AREA OF FUTURE CONFLICT, by Lieutenant Colonel Ravi Inder Singh Kahlon, Indian Army, 57 pages.

This study addresses the growing importance of the Indian Ocean Region to the littorals and non-littoral states including the superpowers. After the departure of Great Britain from the area it remained neglected until the early 70's when the oil embargo by the Arabs brought home the importance of a region which produces the largest amount of oil.

The study reveals that the superpowers are not only present in greater strength than ever before but are working hard to create stable areas of influence. The littorals, led by India, are against superpower presence and see a danger in super power rivalry.

Indian perceptions form a major portion of the study which concludes with a recommended role for India, as most Indians see it today.

422. MILITARY WORKING DOGS AND CANINE EHRLICHIOSIS (TROPICAL CANINE PANCYTOPENIA) IN THE VIETNAM WAR, by Major William J. Kelch, USA, 102 pages.

The United States employed large numbers of military working dogs as sentries, scouts, trackers, and mine detectors in Vietnam. In mid-1968 an epizootic occurred which threatened the working dog program and led to 250 canine deaths. Military veterinarians launched an extensive effort to control this disease and to determine its cause. This study, using primary and secondary written sources, describes the epizootic, the identification and control of the disease, and its implications for the future use of military working dogs.

Canine ehrlichiosis, a highly fatal tickborne rickettsiosis caused by Ehrlichia canis, was identified as the cause of the epizootic. Clinical and experimental experience proved that canine ehrlichiosis can be successfully treated with tetracycline; this treatment and serologic testing to detect infected animals brought the epizootic under control, although ehrlichiosis still remains a problem among military working dogs. This study concluded that the future control of canine ehrlichiosis and related diseases requires: serologic screening of prospective and active duty military dogs, rigorous tick control, evaluation of the disease threat in areas where military dogs are employed, disease education of personnel who deal with military dogs, and additional veterinary research.

423. THE U.S. RAILROADS--A MOBILIZATION ASSET?, by Major John L. Kelly, USA, 83 pages.

This study attempts to determine if the American railroads can support mobilization and movement of unit equipment to various locations, including Ports of Embarkation. The study focuses on the critical period immediately following the decision to mobilize and extends for 30-45 days.

Investigation into the subject reveals that the US railroads would have a difficult time providing the necessary amount of heavy lift equipment to mobilizing forces. The problems of heavy lift are exacerbated by the relative paucity of heavy lift motor transporters, the large amount of

non-roadable equipment in US units today, the location of the material to be moved, and lastly, the general economic and physical condition of the US railroads. In addition to heavy lift, there is even a more glaring lack of passenger transportation capability by the railroads. While 95 percent of personnel are to be moved by air or motor transportation, the remaining 5 percent will be hard pressed to find accommodation on the railroads.

Further study is needed on the role of the US railroads in mobilization for war. Even more questionable will be the ability of the railroads to provide sustained support following the completion of the initial mobilization of forces.

Historical evidence points to the value of the railroads in the war effort during past conflicts. History also shows that the railroad has been in decline in the United States for most of the twentieth century.

In any future war, strong management will be needed of our railroad assets. These assets need to be strengthened in peacetime in order to be ready for the mobilized nation.

424. THE JOINT AIR ATTACK TEAM VERSUS THE SOVIET ATTACK HELICOPTER, by Major John W. Lieberherr, USAF, 86 pages.

This study analyzes accomplishments in the realm of helicopter air combat, including the current capabilities of both A-10's and attack helicopters in air-to-air combat, and it recommends possible means of countering the Soviet attack helicopter. Since there are varying degrees to any threat, the initial step of this study is to define the degree of threat posed by Soviet attack helicopters. Classified material is used for this step, so conclusions will be based on the information used for actual military decisions. The remainder of the study is focused on historical accomplishments and the capabilities of current and near future A-10 and attack helicopter weapon systems.

Soviet attack helicopters pose a distinct air combat threat to both A-10's and attack helicopters. Investigations on the use of helicopters in aerial combat have been ongoing since 1970. An analysis of current capabilities shows that only the U.S. Marine Corps conducts formal helicopter air combat training. The Air Force does not conduct any, and the Army, without formal doctrine, conducts only extremely limited training. However, the current weapon systems, if employed by properly trained aircrews, are capable of countering the threat posed by soviet attack helicopters.

425. THE SHABA INVASIONS, by Major Mulusama di Malu, Zairian Army, 91 pages.

This study was written to clarify the 1977 and 1978 invasions of Shaba Province, Republic of Zaire. The investigation is focused on an analysis of historical events leading to and during both invasions. This investigation reveals an insight into the politics and economy of Zaire particularly the Shaba region, the origins of the invaders and presents a detailed account of combat operations by the Zairian Armed Forces against the invaders.

426. THE VOLUNTEER ARMY: A STUDY OF QUALITY, by Major John R. Miller, USA, 104 pages.

This study attempts to determine if there has been a decline in soldier quality under the Modern Volunteer Army concept. Quality is measured in the traditional yardsticks of years of schooling completed and aptitude test scores. The study analyzes empirical data from the pre-Vietnam, the pre-all volunteer and the post-draft period and compares the results with current data from an active Army infantry division.

The study reveals an unequivocal decline in recruit quality and predicts the quality will not significantly improve because of the declining manpower pool and the general decline in aptitude test scores for the total population. However, the study does offer two suggestions for improving the current situation without requiring Congressional legislation.

427. THE ARDENNES--1944: THE DEFENSIVE BATTLES, by Major Dale R. Nelson, USA, 201 pages.

The study examines the defensive battles fought from 16 December to 26 December 1944 during the conduct of the German counteroffensive in the Ardennes. This analysis of the first 10 days of the "Battle of the Bulge" concentrates on the actions of Allied fighting units from corps to platoon level with emphasis on the actions of the companies and platoons which bore the brunt of the attacks by three German armies.

The study reveals that the keys to the Allied defensive effort lay with the determined actions of isolated small units, normally of company or platoon level, and with the flexible and swift response of the Allied command structure to the German attacks. The analysis further concludes that the overall success of the defensive battles resulted from the cumulative effects of numerous smaller battles which ultimately doomed the German counteroffensive to failure.

428. THE ORGANIZATION OF AFRICAN UNITY AND PEACEKEEPING: THE PAN-AFRICAN DEFENSE FORCE, by Major James S. Ojokojo, Nigeria, 87 pages.

This study looks into the major causes of conflicts in Africa and the efforts of the OAU in settling both interstate and intrastate conflicts. It attempts to determine if the Pan-African Defense Force (PADF) proposed by the OAU is capable of performing enforcement and peacekeeping missions because of the different political ideologies and the differences among the armies in Africa.

The study reveals that any type of PADF created now is not capable of conducting an enforcement mission because of the different political ideologies and the logistics requirement to sustain the PADF. However, the PADF can conduct limited peacekeeping missions. The study proposes the creation of a Pan-African Defense College (PADC) which will solve some of the major problems.

429. TRANSPORTATION PLANNING FOR CONTINGENCIES, by Major William E. Pecoul, USAF, 120 pages.

The Joint Operation Planning system has matured over the past decade since its inception. Greater detail is now expected in the designation and deployment of forces involved. The desire to have an executable operation plan on the shelf with the start of the applicable fiscal year led to the creation of the Joint Deployment Agency and its goal of having real force data and movement tables available for each tasked situation.

The transportation planning assessment includes a study of the Joint Deployment Agency and the organization, assets, and planning systems of the Military Airlift Command, the Military Traffic Management Command, and the Military Sealift Command. The study concludes that the Joint Deployment Agency desire for concurrent transportation operating agency planning is not feasible with the present systems, funding, and manning and that alternate means exist for meeting the timing goals.

Based on the foreseen importance of early development of transportation feasible war plans and the interlocked nature of the present systems of the transportation operating agencies, a recommendation is offered for improving the transportation feasibility assessment procedures. The recommendation stresses the need for increased transportation operating agency involvement in programing the transportation feasibility estimator during the Joint Deployment Agency Phase I conference for refining the time-phased force deployment data and the need for acceptance of less detailed movement data for the Phase II conference.

430. THE NATO AIRBORNE EARLY WARNING AND CONTROL PROGRAM: IMPLICATIONS FOR THE FUTURE OF COOPERATIVE DEFENSE IN NATO, by Major James M. Richards, USAF, 81 pages.

This study attempts to determine if a novel approach to cooperative defense procurement, the NATO Airborne Early Warning and Control (AEW&C) Program, has significant implications for future cooperative defense efforts within the North Atlantic Alliance. To make this determination, the study examines documented United States policy objectives regarding cooperative NATO defense procurement and compares the negotiated agreements of the NATO AEW&C Program with these policy objectives. The results of this analysis lead to some interesting conclusions about the future direction of NATO's cooperative defense efforts.

The investigation reveals that the NATO AEW&C Program supports basic United States cooperative defense policy objectives. It also provides encouragement for the future of the new and innovative approaches to cooperative defense procurement associated with this unprecedented program. Although many of the program's new approaches have not been completely assessed, they indicate that the NATO partners are striving to strengthen their collective defense capabilities and their political solidarity in the face of the formidable threat posed by the Warsaw Pact.

431. AIR SUPERIORITY CONCEPTS: 1980-2000, by Major David E. Rickert, USAF, 84 pages.

The numerical superiority of the Soviet/Warsaw Pact air threat in Central Europe requires a re-examination of the United States Air Force (USAF) concepts for air superiority. To counter the Soviet/Warsaw Pact threat, the F-15 and F-16 will represent the main line of defense during the last two decades of the twentieth century.

This study investigates the air threat in Central Europe, the USAF's commitment to the "quality" concept of air superiority, and the advantages and disadvantages of the air defense of Central Europe. The study presents concepts for fighter employment and a training plan to enhance the "quality" concept of air superiority. It concludes that the USAF must produce the right combination of quality aircraft, pilot specialization, and threat-oriented training to achieve air superiority against the Soviet/Warsaw Pact air threat.

432. ARMY PLANNING-PROGRAMING-BUDGETING SYSTEM, by Major John Schneeberger, Jr., USA, 62 pages.

This study attempts to identify the origin of the Department of Defense Planning-Programing-Budgeting System (PPBS). Most importantly, this study attempts to identify and discuss the major planning, programing, and budgeting events that comprise the four-year Army PPBS cycle. It portrays one complete sequence of major events for developing the program force, establishing the Five-Year Defense Program, and formulating a budget. Finally, this study attempts to identify any problems with PPBS and what changes, if any, PPBS may face in future years.

Investigation reveals that PPBS is ever changing as new administrations are elected to office. Further examination reveals that PPBS is a flexible system capable of change needed to meet this nation's needs.

433. MOUNTAIN WARFARE IN THE EUROPEAN ALPS: HOW DO CURRENT SOVIET OFFENSIVE CAPABILITIES IMPACT ON ESTABLISHED MOUNTAIN INFANTRY DEFENSIVE TACTICS?, by Erhard Semadeni, Switzerland, 119 pages.

This study seeks to demonstrate a need for adjustment in contemporary mountain infantry defensive organization. The investigation first establishes a geographical and historical perspective from which to view current changes in technology and organization. There follows a comparison of recent advances in Soviet combat systems with selected features of the Swiss mountain infantry's combined defense.

Investigation reveals that the concept of 'combined defense' is basically well suited to cope with potential enemy initiatives on the ground. Further examination reveals a distinct need for both the addition of anti-helicopter capabilities and for improvements in mobility and firepower. Such changes are crucial for the future survivability and success of the Swiss mountain infantry division.

434. PERSIAN GULF AND THE BALANCE OF POWER SYSTEM, by Major Shahid Ali Khan, psc, Pakistan Army, 152 pages.

This study attempts to synthesize the present and past of the Persian Gulf region using a historical analysis of its balance of power system, its land, people and politics, in order to recommend options for Western policy.

This study, after an analysis of 1400 years of the Persian Gulf's past history, discovers that mostly a triangular balance of power system has generally existed in the region and that its main actors have acted complementarily to keep the system going. Iran is singled out as the only actor which played a significant role in both regional and extraregional power struggles in the Gulf. Maintenance of strong influence in Tehran, directly or indirectly, has acted as a prelude for the domination of Gulf waters. Overwhelming presence of one global power in Iran, however, has attracted other powers, resulting in the polarization and coupling of the Persian Gulf international subsystem with the global system. Equilibrium in the Gulf has occurred when an extraregional presence is absent and Iran is allowed to play its historical strong and neutral role (vis-a-vis superpowers) in a triangular regional balance of power system.

The striking contrasts existing, in the shape of internal contradictions, territorial disputes, and the presence of subversive element as in the Gulf states superimposed with the conflicting Western, USSR, and the free world's interests, demand an immediate restoration of the regional balance of power equation with Iran, Iraq, and Saudi Arabia as the three pillars of the region's security. Smaller Persian Gulf states with an internal security capability would then function on the basis of mutual cooperation among themselves and the regional powers. The study also recommends against the formation of any collective security within the Gulf region and against the presence of Western vehicles of war in its turbulent waters. The Western block may, however, fly its flag in the peripheral states.

435. TAILORED ACQUISITION: A MANAGEMENT APPROACH, by Major Julian W. Shattuck, USAF, 52 pages.

The Department of Defense's current acquisition process is plagued with cost overruns, performance deficiencies, and schedule problems. Although there have been many attempts over the last 30 years to solve the problems within the acquisition process, improvements are still required. The goal of the acquisition process is a timely delivery of a weapons system that fulfills the user's requirements at a cost the nation can afford. A realistic assessment of this goal must consider cost, schedule, and performance as interdependent. A favorable balance must be struck between the three.

A recommendation for improving the systems acquisition process was made in 1980 by the Air Force Systems Command (AFSC). They proposed tailoring of the acquisition process for their space systems acquisitions to allow the program manager the flexibility required to achieve the most favorable balance. AFSC has identified six key management practices that they believe are important to this goal. An historical review of the last 30 years of Department of Defense acquisition policy has shown that most of these proposals have been suggested at one time or another as positive improvements to systems acquisition.

In assessing the proposed changes it was imperative to insure that they would not have a negative impact on the cost, schedule, and performance balance. The research has shown that the judicious use of the six management practices proposed by AFSC will not affect the balance negatively. In fact, in many instances a very positive influence was demonstrated. Tailored acquisition as a management approach offers great promise for improvement in the systems acquisition process.

436. SELF-DEFENSE OF THE REPUBLIC OF KOREA IN THE 1990'S, by Major Il-Soon Shin, ROK Army, 119 pages.

The problem undertaken in this thesis is to determine the Republic of Korea's (R.O.K.) most viable national defense strategy in the forthcoming decade in the absence or reduction of the American forces stationed in the R.O.K.

Three international political theories are introduced to provide theoretical guidelines for the R.O.K. in development of alternatives in meeting the peculiar dilemma. The investigation then focuses on an analysis of the roles of the four great powers surrounding the Korean peninsula with emphasis on the geostrategic significance of the peninsula to them and their interests in and policies toward the peninsula. In addition North and South Korea are compared, centering on their military and economic capabilities and potentialities. In the context of respective interests of those nations involved, a possible scenario for the peninsula is identified. This analysis leads to an examination of five alternatives open to South Korea.

Analysis reveals that (1) the present military balance of power on the peninsula favors the North, (2) the four great powers favor the "status quo" for the time being; in the absence of the effective deterrent on the part of South Korea, however, the scenario for the peninsula would be "North Korean Dominance of the Peninsula," and (3) the best alternative for the R.O.K. in meeting the possible future crisis is to attain an assured denial capability of its own through some viable means such as the so-called porcupine's quills; i.e., being able to inflict sufficient damage to discourage aggression.

It is therefore suggested that the R.O.K. key the direction of its self-defense to the achievement of independence in countering the surrounding superpowers as well as the communist North Korea, and for that purpose take all the preliminary steps, along with the appropriate conventional measures, necessary to attain the porcupine's quills; i.e., nuclear weapons, short of actually assembling them, without violating its international commitments.

437. A COMPARISON BETWEEN U.S. AND SOVIET TANK BATTALION SUPPORT DOCTRINE CONCERNING THE NUMBER OF CARGO TRUCKS, by Lieutenant Colonel Abd Elrahman Eisa Siam, Egypt, 58 pages.

The purpose of this thesis research was to examine Soviet and US support doctrine as it relates to support of the tank battalion. The Middle East War of 1973 forced recognition of the fact that the lethality and sophistication of the modern battlefield would necessitate significant changes in the number of cargo vehicles in the tank battalion. Experience has shown that logistics doctrine must compliment and support the tactical concept, to successfully accomplish the battalion combat mission.

This thesis attempts to determine if the existing number of support vehicles is a hinderance for the commander to accomplish the mission.

This investigation is focused on an analysis of US and Soviet battalion support doctrine including the number of cargo trucks and its effect in the conventional battlefield.

Analysis indicates that the number of cargo trucks will excessively strain the capability of the commander using current doctrine. Existing logistics doctrine designed for immediately responsive support, due to the critical changes in the modern battlefield and the modern weapons; the number of cargo trucks organic to the tank battalion should be decreased.

438. THE EMPLOYMENT OF FIELD ARTILLERY IN COUNTER-GUERRILLA WARFARE, by Lieutenant Colonel Orlando V. Soriano, Philippine Army, 69 pages.

The purpose of this study is to determine the effectiveness of the field artillery in counter-guerrilla warfare. Experiences in Malaya and Vietnam are examined in depth in order to develop a better understanding of and appreciation for the use of field artillery in counter-guerrilla operations us .g the Philippine scenario, in general, and the Mindanao problem, in particular.

The situation in the Philippines is such that for various reasons our Muslim brothers, referred to as rebels, are waging a war against the government, a guerrilla type warfare. The government is faced with the task of regaining their allegiance, winning back their will and sympathy and making them realize we all have a single identity--the Filipino people. Under such circumstance can the use of the field artillery be effective?

From review of literature and after doctrines were evaluated and reconciled with past experiences, it was found that certain modifications should be accommodated to enhance the effectiveness of the field artillery,

particularly under unusual situations. The conclusion is that the employment of the field artillery in counter-guerrilla operations is necessary, but, that it is most effective if no collateral damage is done to civilian life and property since winning means gaining the will, support, and sympathy of the populace.

439. THE UNITED STATES ARMS TRANSFER PROGRAM--THE EVOLUTION OF AN INSTRUMENT OF FOREIGN POLICY, by Major Richard N. Strand, USA, 150 pages.

This study traces the evolution of the US arms transfer program from colonial times to present, concentrating on the changing character of the program from the Truman to the Reagan Administrations. It offers a detailed analysis of President Carter's arms transfer policy which was established in 1977, providing an overall assessment of the policy in practice up to 1980. This study concludes with a brief review of the new direction the Reagan Administration has begun to chart with a further look to the various factors which will likely influence US arms transfer policy in the years ahead.

440. THE ROLE OF REQUIREMENTS ANALYSIS IN DEVELOPING EFFECTIVE COMMAND AND CONTROL SYSTEMS, by Major Gerry L. Waldrop, USA, 300 pages.

One of the major problems facing today's military services is the timely development of improvements to existing command and control (C²) systems. The purpose of this thesis is to propose a significant new approach to this problem, entitled the "Command and Control Requirements Analysis (C²RA) Approach for Developing Effective C² Systems."

The proposal is based on experience gained in conducting the Allied Command Europe (ACE) C²RA. A methodology is proposed to develop effective C² systems. This methodology uses a decisionmaking approach in which a commander considers mission, organizational structure, people, procedures, facilities, and equipment (including communications and computers) to produce effective performance. In this process, results, not activity, is the objective. In judging results, the most important criteria is effectiveness rather than efficiency.

The product is the the development of operational requirements by commanders, that will justify the allocation of money and resources by funding authorities such as the US Congress and NATO Headquarters.

The thesis contains: (1) a description of the background to the ACE C²RA, (2) an updated C²RA methodology, (3) finding and analysis of the ACE decision-process areas, and (4) recommendations.

441. BEYOND FABLE AND FANTASY IN SOLDIER MOTIVATION, by Major Richard Y. Yamamoto, USA, 69 pages.

This study attempts to determine if the information on motivation available to most Army leaders is supported by contemporary research. The investigation focuses on a review of current maxims, theoretical extensions, and technical analyses.

Research reveals that (1) the hierarchy of needs and the motivator-hygiene theories predominate information available to Army leaders, (2) there is a considerable difference between the information provided by these theories and contemporary research on motivation.

An alternative to the current use of simplistic maxims, unvalidated theories, and scientifically accurate but complex theories is a pragmatic use of basic principles of motivation. These principles involve discipline and extrinsic and intrinsic rewards.

ABSTRACTS
OF
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C45. (U) STRATEGIC AIR DEFENSE COMMAND AND CONTROL, by Major Stephen W. Sutton, USAF, 85 pages.

(U) The North American Air Defense Command operates a strategic air defense command and control network tasked with the security of the airspace of the United States and Canada. The systems used for the accomplishment of this mission are old and becoming more and more difficult to maintain. For this reason, several programs are under development to modernize the NORAD network. This study examines these systems and forms some conclusions as to their operational utility. These conclusions are formed through a comparison with the Soviet approach to the command and control problem. With this background, an examination is then made of the NORAD network. This system is analyzed and evaluated with respect to its ability to detect, track, identify, and direct the interception of air breathing targets both in its present configuration as well as its proposed form. From this analysis, conclusions are formed which give direction for further investigation by military planners.

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