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This paper discusses the development of Army tactical doctrine as elucidated in FM100-5 from 1945 until 1976 and addresses those events external and internal to the Army which may have effected the manual's development. It is apparent in this study that

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neither the manual nor the doctrine it detailed kept pace with the Army's changing situation until 1976. This edition was publicized and heralded throughout the Army as a break with the past. The paper raises interesting questions ~~not only~~ concerning not only the Army's lack of interest in the Field Manual (the capstone of its doctrinal literature) but also about the Army's distate for and failure to develop doctrine.

The Development of FM 100-5 From 1945 Until 1976

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* * * * * INTRODUCTION * * * * *

FM 100-5 Field Service Regulations (or FM 100-5 Operations as it is presently called)[1] is the capstone of Army doctrinal literature. The material[2] it contains theoretically represents a consensus by those within the Army as to what is the best course of action in a given generalized situation. Due to its function as approved official thought, it determines much of the course of instruction followed at the various branch schools and can have an enormous effect on what weapons systems are procured. As a result, it is the manual from which all other Army field manuals flow and so assumes an importance above that of all the others.

This study will trace the development of FM 100-5 from the end of World War II until the end of 1976. An attempt will be made to identify those factors within and external to the Army which contributed to the inclusion of the material in the field manual (FM). The following items are those which were used to guide the conduct of the study of each manual and will be addressed in subsequent chapters:

1) stated purpose of each manual,
2) role of the Army,
3) offensive tactical theory,
4) defensive tactical theory,
5) treatment of non-conventional warfare (partisan, guerilla, insurgent, and others of this nature),
6) importance of leadership and the commander,
7) treatment of special weapons (chemical, biological, and nuclear),
8) retrograde movements, and
9) special operations (those considered to be out of the ordinary - such as mountain warfare).[3]

Many of the assertions made here concerning the editions between 1949 and 1968 are based primarily on secondary sources and generalized assumptions. As of this date no developmental or historical files have been found concerning any edition of the field manual prior to the one produced in 1982 nor have I been able to uncover the names of anyone connected to the writing of the manuals prior to 1976. Fortunately, there are numerous military personnel (both active and retired) who are available with information on how the 1976 and 1982 editions were hammered out. The reader is encouraged to look at Appendix B for a listing of those sources and persons consulted.

FOOTNOTES

[1] Hereafter referred to as FM 100-5 with the edition number in parenthesis if applicable [i.e. FM 100-5 (1949)].

[2] Doctrine can be broadly defined as a consensus between Army officers as to what courses of action are best in any given situation. It defines terms and provides concepts that enable the multiple arms of the services to act in concert on the battlefield. Field manuals provide the basic concepts of tactical doctrine and form the basis for what is taught in the Army school system. These concepts are not to be followed blindly nor are they meant to be restrictive and all inclusive. Room for interpretation and flexibility is purposely built in to doctrinal statements.

[3] The Principles of War will not be covered here. These represent what the Army considers to be fundamental truths underlying the conduct of war. Although they are considered to be immutable, most versions of the FM have stressed that blind acceptance and adherence to them is a precursor to failure. A good book on their development is John Alger's Quest for Victory (West Port, Conn.: Greenwood Press, 1982). I uncovered no material that added to what Alger discussed and so decided not to include their development here.

* * * * * POST WORLD WAR II * * * * *

The 1949 edition of FM 100-5 was produced in the years immediately following World War II. To place this FM in perspective as a starting point for the study it is necessary to discuss the post war environment in which it was formed. Following this the key elements in the 1949 edition will be discussed.

Demobilization following World War II was rapid and by 1950 Active Army strength was around 600,000 men in ten understrength divisions. The National Guard had been reestablished and with the Army Reserve was to provide a reserve force of some 50 combat divisions which were to be fully prepared for war only within one year after a general mobilization was ordered.[1] Most government officials viewed this arrangement as satisfactory to meet US commitments and as late as 1950 felt that "our defenses were in grand shape... [and] ...are adequate to the needs of the hour."[2]

Nevertheless, the Army continued to review its experience in World War II ground combat through a series of conferences in an effort to improve its tactics, organization, and doctrine. The majority of these conferences decided that ground combat would continue to be non-atomic.[3] The most important lesson gleaned from these studies was that of the dominance of the tank-infantry team. Their performance in combat in Europe had demonstrated the need for the restructuring of the division to

effectively integrate new technology (specifically the radio and tracked vehicle). The boards felt that the divisions should no longer remain pure armor or infantry but should become a mixture of all arms.[4] Even with these internal evaluations few other changes from WWII techniques were proposed. The Army therefore proceeded with its reorganization "less as an attempt to meet new kinds of international perils than as a conventional postwar effort to assimilate the lessons of the war just ended."[5] Doctrine developed by 1949 remained essentially that of World War II.[6]

Factors external to the Army also contributed to freezing the attention of the ground forces onto past tactics. In 1947 Congress approved the National Security Act which had been designed to unify the various services and provide more effective control and coordination of their activities. The Air Force was split from the Army and received the majority of its personnel, equipment, and basing from Army resources.[7] In theory, all branches were to be coequal under the Department of Defense (DoD). To the majority of Americans however, the atomic bomb coupled with the Air Force appeared to be the perfect response for future aggression.[8] Few people at this point in time could foresee a thrust by the Russians on any scale other than that of another world war. Thus by 1949, American reliance on the air power-nuclear weapons combination was almost total and the Air Force was riding high on a surge of popularity.[9]

The Army was concurrently forced into a secondary role.[10] Air

Force monopoly of the delivery means for nuclear weapons made the Army's potential contribution seem far less than in the past "and questions concerning its tactical doctrine also seemed less important."[11] Even when the Army tried to expand its potential through efforts to integrate new technology they were stymied by those who believed fully in the Air Force's "Big Bombers." An example is post war Army studies with the helicopter. GEN James Gavin had been appointed as head of the Army's Airborne Panel in 1948 and was charged with the evaluation of the structure and doctrine of airborne troops. Although the helicopter appeared to have promise, the Army was not allowed to procure them on a large scale. When Gavin asked for funds he was told by the Director of Requirements of the Air Force that,

> I will determine what is needed and what is not. The helicopter is aerodynamically unsound.... No matter what the Army says, I know that it does not need any.[12]

Later advances were made by the Marine Corps who furthered development of helicopters due to their potential in amphibious landings. Yet by the Korean War, helicopters were still fragile due to limited research funding and were relegated to limited use in service support units.[13]

Eventually, even the Army began to believe in its own uselessness for so "pervasive was this attitude [of nuclear war as the only possibility] that the Army itself appears to have suffered increasingly under a sense of its own irrelevance, with consequent damage to energy and efficiency."[14] Nuclear

fission had thus become one of the greatest challenges to military planners during the postwar years. So great was it in fact "that military thinking seemed, at the outset, to be paralyzed by its magnitude."[15]

The domestic political situation also acted to the detriment of the Army after World War II. A postwar Republican Congress was determined to limit taxes and so increase their chances of capturing the White House in 1948. Truman, however, was determined not to spend more than what was taken in as revenue so the defense budget was decreased from $14.4 billion in 1946 to $11 billion in 1949.[16] Overall active Army strength receded while the majority of the funds went to the Air Force. The result was predictable, " development of nonatomic weapons had lagged, and procurement ... lagged still more, so the weapons of the Army remained those of World War *II*.[17]

It is to a discussion of how these tactics and doctrine are presented in FM 100-5 (1949) that we now turn. The self proclaimed purpose of the FM was to "constitute the basis of instruction of all arms and services" as it contained "the doctrines of leading troops in combat and the tactics of the combined arms."[18] The role of the Army was only briefly addressed and limited the Army to the fielding of combat units and preparing for and executing operations under the plans of the Department of the Army.[19] Although the manual did not mention the DoD the need for close inter-branch cooperation as learned in World War II was stressed:

> Modern warfare demands close coordination of the tactics and techniques and careful evaluation of the capabilities and limitations of the Army, Navy, and Air Force. A salient function of command is the development, in the forces employed on a given task, of the teamwork essential to success.[20]

A great deal of emphasis was laid on the offensive throughout the manual. The object of all offensive actions was to have been the destruction of the enemy forces and their will to fight. This destruction was held to be the primary purpose for all military operations.[21] Although the FM perceived that elimination of the enemy might be gained by maneuver alone, the author(s) stressed that ordinarily it must be attained through close combat.[22] Four forms of offensive action were recognized; the envelopment, turning movement, double envelopment, and penetration.[23]

Defensive operations played only a secondary role with their general goal being "to gain time pending the development of more favorable conditions for undertaking the offensive, or to economize forces on one front for the purpose of concentrating superior forces for a decisive action elsewhere."[24] Only one type of defense is specified, that of position defense. This was to be built around a series of tactical localities organized for all around defense whose retention would insure the integrity of the main battle position.[25] A security screen was to be maintained in front of the main line of resistance (MLR) and was composed of three layers- general outposts (GOP), combat outposts (COP), and unit outposts (UP). GOPs, COPs, and

OPs were to be manned by elements from Corps (or Division), Regiment, and Battalion (or Company) elements respectively. The role of this screen was to deceive the enemy as to the location of the MLR and delay the enemy advance while providing intelligence for use by the forces on the MLR.[26]

The position defense was to be conducted along mobile lines however since it was felt that forces were usually unable to hold a position by resistance in place alone. Mobility was to be achieved by the use of aggressive air and ground reconnaissance forces, strong covering forces, and reserves capable of rapid movement.[27] This may seem to be contradictory. However one must realize that at lower levels (Regiment on down) a position defense was to be used while the mobile aspects were to be supplied at Regimental levels and above.[28]

What would be loosely classified today as guerilla or unconventional warfare was categorized by the Army as a special operation and titled partisan warfare. Primary emphasis is placed on the use of partisans and the integration of them into operations with regular forces. The language used indicates that the focus is on such pre-war experiences as the tribal wars in the Philippines or operations such as those conducted by pro-Allied forces against the Nazis in World War II.[29]

Leadership and the exercise of command both receive treatment in separate chapters and the role of the commander and his

responsibilities are stressed throughout the manual. The importance of the morale factor in war is only indirectly recognized. Man is hailed as "the fundamental instrument in war ... " and if "inculcated with a proper ... of mutual obligation to ... [his] comrades in the group, can dominate the demoralizing influences of battle far better than those imbued only with fear of punishment or disgrace."[30] Leaders are enjoined to accept responsibility and act on their own initiative, being reminded that "inaction and neglect of opportunities will warrant more severe censure than an error of judgement in the action taken."[31]

The role of special weapons (nuclear, biological, chemical) is discussed only briefly in the manual. Nowhere is there mention of strategic nuclear bombing or use of nuclear weapons tactically. Radiological weapons were briefly addressed in the chapter on security measures and the discussion stressed the need for dispersion, marking of contaminated areas, and other passive measures.[32] Chemical weapons receive the most attention but are not treated in a detailed manner.

Retrograde moves were defined as any movement of the command away from the enemy. They were classified into three types; a withdrawal, a retirement (seeking to refuse decisive combat by moving away from the enemy), and a delaying action. The delaying action was treated in the chapter on defense since it so frequently involved defensive tactics.[33]

The chapter on special operations offered general planning considerations involved in those maneuvers the Army believed required unique procedures and specialized training. Each is briefly covered as a separate topic and are listed here:

> attack of a fortified position,
> operations at river lines,
> night combat,
> combat in towns,
> combat in woods,
> combat in defiles,
> jungle operations,
> desert operations,
> partisan warfare, and
> joint amphibious operations.[34]

One of the more unusual aspects of the FM is the inclusion in an Appendix of the findings of the Congressional Joint Commission on the Investigation of the Pearl Harbor Attack. This committee had conducted a thorough investigation of the actions of the U.S. military before and during the attack and concluded that

> ... certain ... deficiencies existed in the armed forces of the United States and recommended that serious consideration be given by the Army and Navy to 25 principles which it enunciated in the hope that something constructive might be accomplished ... and preclude a repetition of ... 7 December 1941.[35]

These were then included at the direction of the Chief of Staff of the Army (GEN Omar Bradley) who

> approved the simplicity, soundness, and applicability to the conduct of the war of the principles referred to ... and directed that the 25 principles be studied throughout the Army and that they be explicitly enunciated in appropriate field manuals and other publications.[36]

There are several reasons that may lie behind inclusion of these principles yet three are particularly plausible. The list is remarkably similar in form and content to the Principles of War which are already included in FM 100-5 (1949). This indicates

that the Army may have included them in order to reinforce the Principles of War. The second possibility is that they were included due to pressure from Congressional leaders and that the Army hoped to allay this pressure by the token gesture of inserting them in a prominent place (FM 100-5) yet in an Appendix to show that these principles were only of minor importance and could conveniently be ignored. The third reason might have been a defensive reaction to show that these principles had been traditionally supported by the Army as an institution. This thought is partially corroborated by the Army's preface to the Committee's principles:

> All of these principles are included in existing field manuals either directly or by implication, but since they are not treated as a whole in any Department of the Army publication, they are discussed more fully below with references to the appropriate field manuals covering the subject.[37]

Overall the manual is a good basic primer for military operations at levels above Battalion. It does contain material which could be used by small unit leaders (such as assembly area checks and leader responsibilities) but is too general in scope to be relied on extensively. The FM appears to be more oriented towards use as a training tool for Army service schools. There is no specific mention of the World War II experience in the FM yet many of the subjects appear to be based on the Army's evaluation of its conduct in that conflict. Interservice cooperation is covered and the conventional battlefield is stressed. The structure of the defense and definition of other operations is heavily influenced by the perception of the battlefield as linear in nature and European in context. Large

armies operating over extended distances are considered to be the norm. With these considerations in mind, the successor to the 1949 FM will now be addressed.

FOOTNOTES

[1] Ft. Leavenworth: USACGSC, Reference Book 61-2, Selected Readings in the Development of Combat Divisions, 1971, pp. 1-14 to 1-15.

[2] James Gavin, War and Peace in the Space Age (New York: Harper and Brothers, 1958), p. 121.

[3] Robert Doughty, The Evolution of US Army Tactical Doctrine, 1946-76 (Ft. Leavenworth, KS: CSI, August 1979), p. 2.

[4] John C. Binkley, "A History of U.S. Army Force Structuring," in Military Review, February 1977, p. 76.

[5] Russell Weigley, History of the United States Army (New York: Macmillan Publishing Co., 1967), p.487. Hereafter referred to as History.

[6] Doughty, p.6.

[7] Weigley, History, pp. 494-5. See also Roger Beaumont's "The Pitfalls of Faddism" in Military Review, June 1974, p.28 and Russell Weigley's The American Way of War, p. 373 (see below).

[8] Doughty, p.2.

[9] Ibid and Weigley, History p.501.

[10] Doughty, p.2.

[11] Gavin, p. 111. See also Doughty, p. 4.

[12] Doughty, p.4.

[13] Weigley, History, p. 501.

[14] Gavin, p. 112.

[15] Russell Weigley, The American Way of War (New York: Macmillan Publishing Co., 1973), p. 373. Hereafter referred to as Way of War.

[16] Weigley, History, p. 502.

[17] U.S. Department of the Army. FM 100-5 Field Service Regulations (Washington, D.C.: U.S. Government Printing Office, 1949), p. v.

[18] Ibid, p. 2.

[19] Ibid, p. vi.

[20] Ibid, p. 21.

[21] Ibid, pp. 88-96.

[22] Ibid, p. 104.

[23] Ibid, pp. 82-4.

[24] Ibid, p. 120.

[25] Ibid, p. 120.

[26] Ibid, p. 147.

[27] This is my interpretation of what the FM states.

[28] Ibid, pp. 231-3.

[29] Ibid, p. 17.

[30] Ibid, p. 23.

[31] Ibid, pp. 59-61.

[32] Ibid.

[33] Ibid, pp. 161, 167, and 156.

[34] Ibid, p. iv and pp. 173 - 237.

[35] Ibid, p. 264.

[36] Ibid.

[37] Ibid, p. 265.

* * * * * POST-KOREA : THE 1954 EDITION * * * * *

The next version of FM 100-5 appeared in 1954. Assuming a lead time of one year for production of the manual this would have allowed time for initial consideration of the trials in Korea to take place and to be included.[1] In this section a comparison of the two manuals (1949 and 1954) will be made with a discussion of what factors may have contributed to the changes or lack thereof.

The first difference was the inclusion of an introduction which covered not only the purpose of the FM but the role of the Army as well. Rather than limiting itself to the basis of instruction as in 1949 the FM was now to "provide guidelines to govern the actions of combat leadership ... and to serve as a firm basis for the utilization of Army doctrine in the Army's military educational system."[2] The role of the Army in the defense establishment was more clearly defined than in FM 100-5 (1949), yet contains direct slams at the other services.

> Army forces ... are the decisive component of the military structure by virtue of their unique ability to close with and destroy the organized and irregular forces of an enemy power or coalition of powers; to seize and control critical land areas ... and to defend those areas essential to the prosecution of a war by the United States and its allies.[3] (Emphasis is mine.)

And again

> During periods of peace and war, Army forces, in conjunction with Air and Naval forces, have the overall mission of supporting national policies and objectives. Their maintenance in proper balance is essential if the objectives of national

policy are to be attained. (Emphasis is mine.)[4]

These quotes are obviously a reflection of battles in the DoD over the form military institutions were to take following Korea. Congressmen were more easily distracted by glamour items such as the Air Force's bombers and the Navy's carriers and consequently paid less attention to Army needs.[5] This rivalry was made even more bitter by the nature of the budget process in which the DoD provided the services with a directed budget.[6] A major problem was that no organization existed within the DoD to adjust budget allocations to actual military needs.[7]

The ultimate object of war as in FM100-5 (1949) was to have been the "destruction of the enemy's armed forces and his will to fight...."[7] The way this was to be accomplished was through offensive action. Unlike FM100-5 (1949) there are three operational phases of war recognized by the 1954 edition. These were offensive action against an organized position, offensive action in a war of movement, and the pursuit.[8] Each phase can be compared to the earlier stages of the war in Korea. The first, action against an organized position, is similar to the successful breakout from the Pusan Perimeter. The second, war of movement, is described by the FM as occuring frequently in the exploitation of a major offensive success, opening of a new campaign, or initiation of hostilities where "Maneuver becomes of decisive importance."[9] This phase can be compared to the move from the Pusan Perimeter north to the 38th parallel but prior to the decision to cross into North Korea. The final

phase, pursuit, has as its purpose the annihilation of the enemy main force.[10] This mirrors the move above the 38th parallel and the attempts to completely destroy the North Korean army. An interesting point to note is that it is here that helicopters are first mentioned (in FM100-5) as having potential for combat use.

Other reflections of the Korean experience can be found in the offensive section of the manual. There were still four types of offensive actions as in FM100-5 (1949) yet the frontal attack took the place of the double envelopment. The latter was determined to be a variant of the envelopment. The frontal attack was defined as an action maintaining continuous pressure along the entire front with the object of maintaining pressure and preventing disengagement. Ths was usually to be confined to secondary attacks as it was seldom decisive.[11] The experience that this may have been derived from would have been the later years of the Korean War when the struggle had settled into a period of tactical operations having limited goals.

Defensive operations again played a secondary role and their goals are similar to those listed in FM100-5 (1949). There were however, two types of defense enumerated. The first, position defense, was almost a carbon copy of that found in the earlier edition, basically a static defense.[12] The second type was the mobile defense. Here the majority of the defending force was held as a mobile striking force with the remainder in forward defensive positions. This strike element was then to be

used as a counterattacking force to destroy the enemy at the most favorable tactical location.[13] This is a clearer exposition on what was presented in the 1949 manual. The origins of the mobile defense are unclear. It was apparently based on the Army's World War II experiences. The concept was refined in Korea and used with great effect in the defense of the Pusan Perimeter and later defensive operations in 1952. There is evidence that it had even been discussed among various Army leaders prior to World War II.[14] In a letter to GEN Bruce C. Clarke in 1967, President Eisenhower wrote "Regarding ... your own brochure on tank tactics, it may amuse you to know that in 1920 and 1921 George Patton and I publicly and earnestly espoused similar ideas in the service journals of that day."[15] Apparently, the actual doctrine for mobile combat (to include the defense) had been written by GEN Clarke following World War II (but prior to Korea) when he was Assistant Commandant of the Armor School.[16]

The security screen as elucidated in FM100-5 (1954) is similar to the earlier concept but includes two layers beyond the corps outpost (COP). The covering force was to be a mobile force provided by corps to establish early contact with the enemy forward of the COP and delay him. Beyond the covering force reconnaissance and combat aviation assets were to be used for the same purposes.[17] Two explanations for these additions seem plausible to me. The first deals with the increased emphasis on aviation forward of the battle area. A group called Project VISTA was established at the California Institute of

Technology in early 1951 to conduct a broad study of ground and air tactical warfare with particular emphasis on the defense of Europe. The Projects' report was submitted to the Departments in the DoD in February of 1952 but were never approved due primarily to Air Force pressure. Among their recommendations were the diversion of air resources to the land battle and these may have been widely distributed within the Army.[18] Even more of a contributing factor to the increased attention given to tactical airpower was the recognition (brought about in Korea) that air operations could not be successfully separated from ground maneuvers or vice versa.[19] These considerations may have combined to direct further thought to the role of the air arm in support of ground operations and in extending combat power beyond the MLR.

Examination of the security screen shows it relies on depth to achieve its purpose. The second explanation for the addition of the covering force, although tenuous, could be the continuing focus of the Army on European operations where a deep security screen would be a necessary requirement for a defense based on maneuver. It was in Europe that both political and military leaders perceived the gravest Communist threat and directed most of their attention even while the Korean conflict was in progress.[20]

Man is once more placed on a pedestal and extolled as "the fundamental instrument of war."[21] The FM stresses that an understanding of his behavior patterns and how to influence them

is essential to successful command. Three characteristics of men were listed as being of particular importance to a leader. The first, fear, was to be overcome by proper training. The second, self-interest, was discussed as man's tendency to subordinate the group's interests to his own. The final characteristic was man's perceived desire for recognition. A new twist was the realization that leadership could be either persuasive or authoritarian in nature. The latter was more readily implemented due to the Army's hierarchical structure yet the former was felt to be the most effective in the majority of circumstances.[22] Nonetheless, the leader's primary duty was the "accomplishment of his assigned mission; everything else is subordinate."[23] Two chapters were devoted exclusively to leadership and the exercise of command, yet the role and responsibility of the commander were continuously stressed throughout the manual.

Special weapons occupy a greater place in FM100-5 (1954). The authors recognize that a fundamental change in warfare has occurred yet are not certain of its outlines.

> The full import and extent of changes resulting from the employment of the latest developments (in weaponry), the nuclear and thermonuclear weapons and the guided missle, is not clear at this time. It is, therefore, of the utmost importance that all officers carefully evaluate every situation ... considering the enhanced capabilities of each opponent ... and the limitations imposed ... as a result of the availability of the weapons.[24]

Most references to nuclear weapons tend to stress their ability

to augment indirect fire.[25] Chemical, biological, and radiological weapons are portrayed as systems which can be employed both offensively and defensively, lending themselves readily to barrier plans and denial operations.[26] Mention was also made of FM100-31 , the Army's field manual on nuclear weapons employment. This FM was produced in draft form at Fort Leavenworth (home of the Army's Command and General Staff College or CGSC) in 1949 or 1950. It was here that LTG Manton Eddy had assigned a group of officers to study "the role of the Army in modern warfare, and employment of atomic weapons by the Army was an integral part of this study."[27] Other agencies (such as WSEG) also took up the idea of the nuclear weapon in a tactical role. The majority of these studies concluded that present doctrines need not be changed in light of the addition of tactical atomic weapons [28] This did not hold true throughout the 1950s however. Army officers remained concerned with the application of atomic weapons to the battlefield and attempted to develop new methods of ground combat in a nuclear environment.[29] As will be explained in the next section, most of these solutions tended to stress changes in organizational structure rather than shifts in doctrine.

American experience with retrograde operations in World War II had been limited. This lack of familiarity was telling during the initial phases of the Korean War and post war studies noted that competence in these operations grew with combat seasoning [30] Nevertheless, changes in the doctrine as expressed in FM100-5 (1954) were not major. The list of

retrograde operations is similar to the 1949 version, changing only in that it lists a combination of the other operations as a separate type.[31]

The list of special operations changed only slightly. Added were mountain operations, operations in deep snow and extreme cold, and airborne operations. The order of the list changed slightly indicating a possible shift in priorities that gave combat in cities a higher rating.[32] Although not specifically discussed, the types of additions again suggest that the Korean experience brought about greater attention to mountain and extreme cold operations. The inclusion of airborne forces could also have been brought about by their limited use in Korea (only three major drops were conducted in the first phase of the war).[33]

Again included in an Appendix is the report of the commission on the Pearl Harbor attack. As before, no indication is given as to why it was included. The text is almost a verbatim rendition of that found in the previous edition and this indicates that it may have been added without much consideration.[34]

Overall the 1954 version is an enhanced reproduction of FM100-5 (1949). This is not surprising considering the slow pace of modernization during this period and emphasis on the "Big Nuke" as the solution to the nation's defense needs. Also, to many the Korean War indicated that only minor changes were needed in doctrine.[35] Although tactical nuclear weapons were being

introduced during the gestation period of the manual the weapons were merely grafted onto existing tactical theories as being extensions of the firepower available to the commander. The Army acknowledged however that it had yet to realize the full impact of nuclear weapons systems. Other hindrances to the development of nuclear integration theory were the bulk of the weapons themselves and concurrent lack of flexibility in their delivery means. This made the weapons impractical for use for many years. Also blocking Army developments were the limitations placed by the DoD on promising areas of research. In November of 1950 a DoD memorandum (supported primarily by interests backing the Air Force) limited research on surface to surface missiles to a 200-mile radius and restricted helicopter and fixed wing aircraft weights to 5000 and 10000 pounds respectively.[36] This closed new areas of research for the Army primarily due to interservice competition.

The Korean War may have also affected the development of FM 100-5 in an indirect manner. The officer ranks, and in particular the general officer corps, were extremely frustrated by the limitations placed on the conduct of the war by the political leadership of the country. This was also evident at the junior levels where officers brooded over the stalemate and yearned for rotation.[37] Apathy set in and during the post-Korea time period the lack of interest in professional readings, discussion, and thought above the level of mechanical problems was evident to many.[38] Further evolution of the

doctrine elucidated in FM100-5 (1954) may therefore have been hampered by the "persistent view of war as a body contact sport one dimension removed from the playing fields of the military academies [which] mirrored [the] American culture's preference for action over reflective thinking."[39] This action oriented philosophy could have combined with careerism and frustration over conduct of the war to produce an apathetic, self oriented officer corps which was not concerned with the finer points of doctrine.

FOOTNOTES

[1] Present TRADOC estimates and planning figures for FM development are 18 months.

[2] FM100-5 Field Service Regulations September 1954, (Washington, D.C.: USGPO, Sept 1954), p.7.

[3] Ibid, p.4.

[4] Ibid.

[5] Roger Beaumont, "The Pitfalls of Faddism," in Military Review (June 1974), p. 29.

[6] James Gavin, War and Peace in the Space Age, (New York: Harper and Bros., 1958), p. 170-4.

[7] FM 100-5 (1954), p. 25.

[8] Ibid, p. 74.

[9] Ibid, p. 104.

[10] Ibid, p. 109.

[11] Ibid, pp. 89-92.

[12] Ibid, p. 117.

[13] Ibid.

[14] Robert Doughty, The Evolution of US Army Tactical Doctrine, 1946-76, (CSI: USACGSC, Aug 1979), p. 15.

[15] Letter to GEN Clarke from Dwight D. Eisenhower dated 15 September 1967. Provided to author by GEN Clarke.

[16] Letter to author from GEN Clarke dated 14 July 1983.

[17] FM100-5 (1954), p. 115.

[18] Gavin, pp. 129-32, and Doughty, p. 113.

[19] Doughty, p. 12.

[20] Russel Weigley, The American Way of War, New York: Macmilan Publishing Co., 1973), p.397. Also Russel Weigley, The History of the United States Army, (New York: Macmillan Publishing Co., 1967), p. 519 and Doughty, p. 14.

[21] FM100-5 (1954), p. 28.

[22] Ibid.

[23] Ibid, pp. 29-31.

[24] Ibid, p.8.

[25] Ibid, p. 40.

[26] Ibid.

[27] Doughty, p.13 and John Rose. The Evolution of US Army Nuclear Doctrine 1945-80 , (Boulder, Colorado: Westview Press, 1980), p. 32.

[28] Weigley, Way of War , p.368, Doughty, pp. 13-15, Rose, pp. 84-6 and 32.

[29] Rose, pp. 32, 55, 56.

[30] Doughty, pp. 8-9.

[31] Fm 100-5 (1954), pp. 137-49.

[32] Ibid, pp. 150-210.

[33] John Weeks, Assault From the Sky: A History of Airborne Warfare , (New York: GP Putnam's Sons, 1978), pp. 130-2.

[34] FM 100-5 (1954), pp. 217-22.

[35] Doughty, p.7.

[36] Gavin, p. 160.

[37] Samuel Huntington, The Soldier and the State , (New York: Vintage Books, 1957), pp. 388-91.

[38] Beaumont, p. 28.

[39] Ibid, p.27.

* * * * * Korea to 1960 * * * * *

Two changes to FM100-5 (1954) were published during the 50s, one in 1956 and one in 1958. Neither substantially changed the contents of the FM. Most of the corrections were limited to format problems or rewriting portions of the manual to enhance its clarity. To understand why the document remained unchanged, three areas need to be addressed. The first is the extent to which Massive Retaliation absorbed the attention of the Army's leaders. The second relates to how problems identified during Korea and after were approached from the standpoint of organizational changes. The final area concerns the organizations which were responsible for developing doctrine and in what manner they performed their functions.

The unpopularity of the Korean conflict was evident in the 1952 Presidential elections. President-elect Eisenhower was anxious to avoid involvement in any similar limited war and adopted the policy that the country would instead use nuclear weapons in any future crisis threatening the United States.[1] In January of 1954 Secretary of State Dulles announced the implementation of the "New Look" with emphasis on the massive use of nuclear weapons and precipitated a great debate that was to continue until the 1960s.[2] Defense Secretary Wilson set the outlook for the proposed structure of the military in testimony before a Senate Subcommittee. Wilson claimed that

> ...the integration of new weapons systems into military planning creates new relationships ..., which ... permit overall economies in the use of manpower .... As we increase the striking power of our combat forces by the application of technological advances and ... the continuing growth of airpower, the total number of military personnel can be reduced.[3]

Many in and out of the military supported this policy. The concept even found broad support in NATO.[4]

Economy measures weighed heavily in the decision to adopt the policy of Massive Retaliation. Under pressure to reduce government expenditures, reduce taxes, and balance the budget, the Eisenhower Administration adopted what it felt was the most cost effective form of defense. Nuclear weapons became the means by which ambitious containment goals were reconciled with limited military resources. The problem was not that the potential for conflicts below the nuclear threshold was not recognized. It was that the United States had informally apportioned containment functions out among free world nations with the U.S. providing the shield of nuclear air power while allied forces took up the ground gaining role.[5]

Initial estimates for the implementation of the "New Look" were contained in a paper entitled NSC 162/2. The Joint Chiefs of Staff (JCS) supported this plan and felt that as the allied ground forces were expanded and modernized, the American Army and Navy could be reduced while the Air Force was concurrently

enlarged. This would allow the U.S. to gradually cut the defense budget, or so the JCS believed.[6] The Army Chief of Staff, GEN Matthew Ridgway, protested and called the reduction of Army strength "directed verdicts... squeezed between the framework of arbitrary manpower and fiscal limits."[7] Ridgway continued to fight for a properly proportioned force with equal emphasis on conventional forces while CoS. Yet in his two year term he was forced to carry out the instructions of the Secretary of Defense to dismantle the Army.[8]

In spring of 1956, it was discovered that the earlier financial estimates developed for the New Look were too low. This led to a conflict over the Joint Strategic Objectives Plan (JSOP) which was being developed for Fiscal Year 1960. The JSOP was a midrange planning document drawn up by the JCS for use in estimating force requirements at least four years in advance. Admiral Arthur Radford (then Chairman of the JCS) felt that economies should be made at the expense of conventional forces (nonatomic) to enable the "New Look" to be fully implemented.[9] "In particular, he was determined to eliminate from military planning any consideration of the possibility of a conventional war with the Soviet Union."[10] The Radford cuts would have effectively eliminated the Army as an instrument of national policy and were met with resistance from the Army and Navy. Radford's plan was leaked to the press by unknown sources and the subsequent outcry from U.S. allies (the West German Chancellor ,Konrad Adenauer, sent a personal envoy to the President) was so

great that Radford's plan was dropped.[11]

Unfortunately, the following year Secretary of Defense Wilson prepared a budget and organizational plan for presentation to the President without consulting the JCS. Due to rising equipment costs, Wilson wanted to drop Army strength from 900,000 to 700,000 (or from 15 to 11 divisions) and cut back on naval forces. The Air Force would shoulder the lion's share of the defense burden. This plan was never officially approved but it formed the basis for the Fiscal Year 1959 budget in which Army strength was reduced to 850,000.[12]

By this time, many people within and outside of the military questioned the effectiveness of Massive Retaliation. GEN Ridgway was among the first in the Army to argue for a more flexible conventional force and his successor, GEN Maxwell Taylor, took up Ridgway's theme albeit more diplomatically. Taylor continued to be a minority of one however, and later referred to the 1950s as "the period of Babylonian captivity for the Army."[13]

GEN James Gavin has summed up the decade in this manner:

> ... the Army went through a very trying crisis of identity during this period. The Department of the Air Force, particularly the Strategic Air Command people, were deadset against spending a nickle on Army forces. They were convinced that there would be no need for them. Perhaps they might need some police and clean-up people after the bomb. But many of them even doubted this, so the Army was fighting for its very existence. I might say that the Navy was also.... The

> Navy, for its part, had a nuclear capacity that could deliver a nuclear attack and could withstand one. It leaned heavily on this capability for its survival. The Army had to do likewise.... I would like to emphasize that Army's entry into the nuclear field was necessary to ensure its survival.[14]

Continuous attacks against the size and role of the Army had necessitated that its leaders devote the majority of their time to ensuring the Army maintained a role in the nation's defense. Many areas therefore, (to include FM100-5) suffered from their neglect. As GEN Maxwell Taylor has recently stated

> The conflict in Washington over Massive Retaliation versus Flexible Response as a doctrine for our national strategy made it difficult if not impossible to have an authenticated document of the kind FM100-5 tries to represent.[15]

Other serious problems also faced Army leadership. The Korean War had demonstrated that the triangular division which had seen such success in Europe was not as effective in other parts of the world.[16] The Korean experience (as discussed in the previous section) and the threat of the Russian nuclear buildup during the post-Korea years thus combined to spur the development of two major structural changes, that of the Pentomic Division and the Strategic Army Corps.[17]

The first officially recommended changes concerning the Army's divisional structure came from the Infantry School at Fort Benning, Georgia. In April of 1953 the Lonning Board proposed a structure similar to that of the conventional armored division.

Institution of the "New Look" however, caused a further serious reevaluation of all divisional organizations in order to provide forces with both a nuclear and nonnuclear capability.[18] Exercises in Germany confirmed that the present formations were too unwieldy for a nuclear environment and European commanders strongly supported changes.[19] In 1955 therefore, the Continental Army Command (CONARC) began experimenting with proposals made by the Operations Research Office (ORO) at John Hopkins University. The ORO recommended (and CONARC concurred) that a pentomic structure be adopted which would break down a division into five maneuver battalions each having five elements.[20] In September of 1956 the 101st Airborne Division was reorganized along pentomic lines and in December the Army Chief of Staff, GEN Taylor, recommended that all U.S. divisions be so fashioned.[21] Unfortunately, the Pentomic Division was not fated to last long as field testing revealed serious flaws in the basic concept.[22] Although powerful on defense, the division was not agile enough to conduct offensive operations successfully and possessed too large a span of control for the division commander to easily handle.

Funds to support the study of the new pentomic structure were limited. Even those that were available were channeled increasingly to the development of missiles and aviation at the expense of operations. The Army's major overhead costs, operations and maintenance, suffered the most and more and more equipment became useless due to lack of spare parts.[23]

Training and experimentation with the new divisional concept was thus curtailed when evaluation should have been expanded.

Another case of restructuring was found in the Strategic Army Corps (later combined with the Air Force in the Strike Command). Maintained as closely as possible at full strength, these two corps were to provide a strategic, mobile reserve prepared for immediate deployment to any spot in the world. Unfortunately, the drills that these units were required to go through put more emphasis on administration and strategic mobility than on tactical training or readiness.[24] Both STRAC and the Pentomic Division had one thing in common. They were attempts by the military to repackage its force structure to cope with the policy of Massive Retaliation and were designed to appeal to Congressmen who might otherwise be seduced by SAC or nuclear carriers.[25] The effort required to develop and assimilate these concepts distracted the officer corps from doctrinal evaluation.

More serious in its effect on FM100-5 was the lack of a stable and unified organization to oversee the development of doctrine. Immediately following World War II, doctrine development was a function of the G3 (Operations and Plans) Staff Section of the General Staff with Ft. Leavenworth retaining responsiblity for developing the FM. In October of 1952, the Chief of Staff ordered the creation of the Office of the Deputy Chief of Staff for Combat Developments under the Army Field Forces (the major continental U.S. command). The CoS also directed that Combat

Developments (CD) Departments be established at CGSC and the four Combat Arms Schools. The CD role was to center around research, development, testing, and early integration into field unit, of new doctrine, organizations, and material. While CD was to address issues at least 10 years in the future, the staff in the G3 section remained responsible for overall supervision and short range doctrinal requirements. Invariably the G3 section became involved in long range planning and operations to the detriment of CD. A reorganization was therefore ordered by the Secretary of the Army and the Combat Developments Group that had been under G3 became a separate staff agency with G3 retaining responsibility for short range developments.[26]

In February of 1955 the Continental Army Command (CONARC) was formed to direct the activities of the forces within the U.S. (replacing the Army Field Forces). It was given the responsibility for the continued improvement and development of the Army and doctrine development.[27] The CD Section of the G3 became a CONARC staff division in 1956. Unfortunately, these efforts at unification were not entirely successful as CONARC remained responsible to three separate sections of the General Staff as far as doctrine formulation was concerned.[28] Another shortcoming was that CD in the American Army was not as broad based as it might appear. Operations Research in general tended to confine itself to the study of the optimal use of weapons or at most weapons and tactics.[29] Doctrine rated a poor second. As a result, in January of 1959

> the Army's program for combat developments was still a loose-jointed arrangement among CONARC, the General Staff (where three agencies were involved), and the technical and administrative services. Coordination and concurrences required to reach decisions on new weapons and equipment among so many agencies still required an enormous amount of time.[30]

Development of FM100-5 stagnated throughout the 1950s. The top Army leadership was engaged in a continuous fight for the Army's survival in the years of Massive Retaliation. The atomic battlefield seemed to require less and less participation from conventional forces and so budget reductions fell heavily on the Army in particular. Doctrinal problems therefore, were the least of the leadership's worries during this time. Even so it was felt that those forces that were to engage in combat would continue to use those tactics practiced in World War II, modified only slightly for use on a nuclear battlefield. Organizational and structural changes designed to provide more flexibility appeared to be more necessary than doctrinal change and consumed much of the officer corps' energies. In addition, the fragmentation of the doctrinal effort limited the ability of the Army to determine what changes were necessary and forced them to concentrate instead on developing programs and weapons designed to keep the Army viable.

FOOTNOTES

[1] Russell Weigley, The American Way of War , (New York: Macmillan Publishing Co., 1973), p. 399. Also Russell Weigley, The History of the United States Army , (New York: Macmillan Publishing Co., 1967), p. 525.

[2] Ernest Fisher, "A Strategy of Flexible Response," in Military Review , (March 1967), p.43. Also C.M. Fergusson, "Military Forces and National Objectives," in Military Review , (Oct 1955), p.2.

[3] James Gavin, War and Peace in the Space Age , (New York: Harper and Bros., 1958), p. 150.

[4] Ibid, p. 152, and Fisher, p. 43.

[5] John Oseth, "Where the Army Has Stood," in Military Review , (February 1981), pp. 64-5.

[6] Weigley, Way of War , pp. 402-3.

[7] Fisher, p. 45.

[8] Ibid.

[9] Weigley, Way of War , p. 421. See also Maxwell Taylor, The Uncertain Trumpet , (New York: Harper and Bros., 1960), p. 38.

[10] Taylor, p. 38.

[11] Ibid, pp. 42-9.

[12] Ibid.

[13] Fisher, p. 49.

[14] Letter from GEN James Gavin to the author dated 20 July 1983.

[15] Letter from GEN Taylor to the author dated 18 July 1983.

[16] John C. Binkley, "A History of US Army Force Structuring," in Military Review , (Feb 1977), p. 76.

[17] Fisher, p. 75.

[18] Virgil Ney, Evolution of the US Army Division: 1939-68 , (Combat Operations Research Group), p.100, and Binckley, pp. 76-8.

[19] Gavin, pp. 136-9.

[20] Binkley, pp. 78-9.

[21] Doughty, p. 16.

[22] Ibid, p. 17. Also letter from GEN Clarke dated 14 July 1983.

[23] James E. Hewes, From Root to McNamara: Army Organization and Administration 1900-1963 , (Washington: Center of Military History), p. 306.

[24] Weigley, History , p. 529, and Beaumont, p. 29.

[25] Beaumont, p. 29.

[26] Hewes, p. 259.

[27] Weigley, History , pp. 528-9.

[28] Hewes, p. 262.

[29] Weigley, Way of War , p. 408.

[30] Hewes, p. 262.

* * * * * 1962: The Emphasis Shifts * * * * *

The 1962 edition of FM100-5 gives evidence of a major shift in the nation's military policy and philosophy. These changes were brought about primarily due to the transformation of the domestic political situation in the United States. Other interrelated factors were also important, chief among them being changes in the international scene and yet another series of structural reorganizations within the military. This section will discuss how these interrelationships combined to make FM100-5 (1962) distinctly different from its predecessors.

The Presidential elections of 1960 brought a new head of state and philosophy of defense into office. Eisenhower's policy of Massive Retaliation had been under attack for many years by scholars and many in the military as an unworkable solution to the nation's defense needs. One of its major drawbacks was that it provided the US with only two options, that of backing down from a Soviet threat or initiating an all out nuclear exchange. This forfeited much of the initiative to the Soviet Union. John F. Kennedy embraced the strategy of Flexible Response partly as an attempt to restore the ability of the US to counteract Soviet pressures.[1] The basis for this policy appears to have been a paper entitled "A National Military Program" developed by GEN Taylor during his last years as Chief of Staff.[2] The document's premise was that conflicts would occur over a wide spectrum of intensity and involvement and the US should therefore structure its forces so that it could successfully apply the correct amount of force required to influence the

situation. Prior to his election Kennedy had supported this indicating that

> in practice, our nuclear retaliatory power is not enough. It cannot deter Communist aggression which is too limited to justify atomic war. It cannot protect [an] uncommitted nation against a Communist takeover using local or guerrilla forces. It cannot be used in so-called brush-fire wars.... In short, it cannot prevent the Communists from nibbling away at the fringes of the free world's territory or strength.[3]

Flexible Response was to provide this ability.

To assist the President in reaching this new capability Robert S. McNamara was appointed as Secretary of Defense. McNamara had been recommended as a master of systems analysis and cost-effectiveness comparisons and it was hoped that he could rapidly bring the new strategy into existence.[4] His methods focused primarily on the budget process [5] and attempted to eliminate the problem that GEN Taylor had identified earlier- " Nowhere in the machinery of government is there a procedure for checking military capability against political commitments ...."[6]

Under McNamara, Defense Department expenditures gradually began to rise. although the major part of these funds initially went into the strategic nuclear arms, the emphasis on conventional forces began to grow. The Administra...: placed new requirements on the military to revise European defense plans so that the defense relied primarily on non-atomic weapons. To further enhance the military's conventional capabilities, the

nation's strategic airlift capacity was to be increased by 400 percent to allow rapid intertheater movement of troop units. In conjunction with this, equipment began to be prepositioned in Europe and other key areas of the world to allow troops to be more readily dispatched.[7]

The international situation caused the nation to move rapidly in the direction of Flexible Response. By 1959, our NATO allies had begun to question our strategic military policy. They feared that the US would back down when faced by a threat from the Soviet Union due to our hesitation to use nuclear weapons. When the Soviets began to reach strategic parity with the US in 1960, NATO began moving towards a defensive posture that stressed conventional preparations.[8] Extra impetus was provided when NATO divisions were ordered reorganized by GEN Hans Speidel (commander of Land Forces Central Europe) during the period 1959-60 to be able to more readily carry out non-atomic military operations.[9]

In early 1961 Premier Khrushchev promised support for unconventional wars of liberation taking place in areas friendly to the West. Although Kennedy had directed GEN Taylor to consider this subject, the Premier's threats gave added momentum to the move towards a non-atomic approach to defense. Kennedy directed the services "to expand rapidly and substantially the orientation of existing forces for the conduct of nonnuclear war, paramilitary operations, and sublimited or unconventional wars...."[10] An immediately visible effect was an increase in

the size of the Army's Special Forces and unconventional warfare remained the focus of the officer corps throughout the 1960s.

Structural changes in the DoD were also to have an influence on conventional capabilities. In 1958 the DoD underwent another reorganization designed to increase the control of the Secretary of Defense and the DoD's effectiveness. Joint commands consisting of all branches of service were established in critical military areas. These commands were then placed directly under the Secretary of Defense, bypassing the Chiefs of Staff and JCS. All service chiefs could now be circumvented and many of the interservice rivalries were reduced. Military departments were to be removed from operational commands and function instead as agencies for organizing, equipping, and training forces.[11]

McNamara also commissioned a broad, overall study of the Army entitled "Study of the Functions, Organizations, and Procedures of the Department of the Army." This was perhaps the most thorough study of the Army conducted since World War I, taking six months of effort by a select military and civilian staff. One area that received critical marks was that of CD. The study (known as Project 80) found the responsibility for CD still fragmented among many agencies. Long range planning of new documents and concepts was held to be inadequate and Project 80 recommended that CD be freed from all operating responsibilities. Moreover, the report suggested transferring from Army schools those functions and personnel connected with

the development of doctrine. Those individuals tasked with doctrinal development were apparently given additional teaching and training functions. Due to this, their primary work in the doctrinal area suffered. Although many of the other committee suggestions were adopted, the responsibility for FM development remained with the CONARC school systems while CD was transferred to a separate agency within CONARC.[12] Leavenworth still retained responsibility for FM100-5.

Another shift occurred at lower levels as the divisional organization changed once again. Although the Army had stated in 1958 that the "basic pentomic concept adopted in 1957 ... [had] ... proven to be sound and will be retained..."[13] dissatisfaction with it was growing. In January of 1959 CONARC ordered that a study be prepared entitled "Modern Mobile Army 1965-70 (MOMAR I)."[14] The goal for the study was to propose a divisional organization with more flexibility and offensive capabilities than the pentomic division.[15] The Department of the Army was not completely receptive to the results of the study, maintaining the proposals advanced still did not provide the flexibility needed for either the modern battlefield or for all possible deployment areas. CONARC then directed the CGSC to prepare a field army concept in September of 1959 using MOMAR I as a starting point. The study was combined with another CONARC project and entitled "Reorganization Objectives Army Division (ROAD) 1965." The structure that emerged provided a common division base with subordinate brigade headquarters which could handle varying numbers and types of combat battalions.[16] This

concept was approved by DA and in May of 1961 the President announced his intentions to once again reorganize the Army for the conventional battlefield.

All these influences can readily be seen in the 1962 version of FM100-5. The initial chapter was entitled "Strategy and Military Force" and covered in detail the natures of conflict, military power, and land forces (along with their role). In a contradiction to the philosophy found in FM100-5 (1954) the 1962 edition states that

> The United States Department of Defense is organized on the premise that the day of separate land, sea, and air warfare is gone forever. No single element of the nation's overall military power will suffice. Land, sea, and airpower are interdependent elements to be applied under unified direction and command toward the attainment of United States' objectives.[17]

> Army field forces operate as a team with other U.S. and Allied forces of the area of operations. Economy and efficiency dictate minimum duplication of effort among Services. Functions which can be performed by one Service for all Services should normally be performed by that Service. Service cooperation is effected in accordance with the policies announced by the unified commander.[18]

The reorganization of the DoD and emphasis on Flexible Response are readily apparent. There are still however, oblique references to the relative importance of the other services

> In war the ultimate and decisive act is the exercise of landpower.... The ultimate aim of both sea and airpower is to influence the situation and operations on land; landpower makes permanent the otherwise transient advantages which air and naval forces can gain.[19]

A dramatic shift from the policy of reliance solely upon Massive Retaliation is particularly evident. FM100-5 (1962) boldly defines the "Spectrum of War" as the "full range of forms which conflict can take ... [and] ... which reflects the degree and magnitude of violence involved in each form."[20] Cold war is explained to be the complete scope of actions, other than general or limited war, which can be used in a power struggle between contending nations. Although the absence of overt armed conflict is recognized as one characteristic of cold war, hostilities are not ruled out. Limited war is defined as a conflict which does not involve the unrestricted employment of all available resources. The threshold to general war, in which all means possessed by the nation are employed, is not crossed until one country or the other feels that national survival is directly and immediately at stake and so discards all restraints.[21] This is again a reflection of the Kennedy - McNamara view of the wide variety of situations that the US could face internationally and the concurrent need for a flexible response.

The ultimate objective of war remains "the destruction of the enemy's armed forces and his will to fight."[22] Battle, however, is treated differently than in 1954. The offense is no longer the key to ultimate victory. Instead, the "commander selects that combination of offensive and defensive action which will most effectively accomplish his mission.... Under fluid, dispersed battlefield conditions operations may have both an

offensive and defensive purpose."[23] Four types of offensive maneuvers were recognized by FM100-5 (1962). They were the same as those listed in the 1954 version and the discussion of their characteristics was similar. There were however, other offensive operations listed which were designed to maintain or gain the intiative and carry the fight to the enemy.[24]

Defensive operations on the other hand, were designed to prevent, resist, or destroy an enemy attack. Two types were recognized, the mobile and area defense. The former is similar to that found in FM100-5 (1954) and is stressed as being particularly appropriate to the nuclear battlefield with its need for mobility and dispersal. The latter is similar to the position defense yet emphasizes deployment in depth. Neither type was hailed as a hard and fast solution and the author(s) recognized that "they lie at opposite ends of a scale of wide variations in the form of defensive operations."[25]

Gone were the layers of the security screen found in the 1954 FM. Instead the battle area is organized into three echelons; the security zone, forward defense area, and reserve. The security zone retained the function and missions of the 1954 edition yet no set organization of the area was required. One of its major responsibilities was to be the development of nuclear targeting information. The forward defense and reserve areas composition was to vary depending on whether the area or mobile defense was employed. In a mobile defense the bulk of the force was to be kept in the reserve area for counterattack

purposes while the forward defense area held the majority of the forces so that terrain could be retained when the area defense was employed.[26]

The treatment of retrograde operations was identical to that found in the 1954 FM with one important exception. Retrograde actions were included in the section on the Conduct of Battle along with offensive and defensive operations. This indicates that the Army's interpretation of the future battlefield placed heavy emphasis on the interrelation of various types of operations in war and felt that conditions would be fluid with no lines of demarcation to distinguish between them. One source for this attitude was the Army's own CD effort. In 1956 a field laboratory had been established at Ft. Ord, California to assist in the production of unbiased results for doctrine evaluation. Initial results showed that offensive and defensive actions would merge on the battlefield and that the firepower to manpower ratio would increase beyond that of the 1950s, resulting in greater dispersion and uncertain battlelines.[27]

Another source for the fluid conditions was the introduction of the helicopter, armored personnel carrier (M113), and improved tanks on a large scale. This gave the Army a correspondingly greater mobility and caused planners to feel that a division could successfully operate over greater areas than before.[28] The Army's need to focus on the nuclear battlefield during the preceeding decade has previously been mentioned. The conditions surrounding this type of warfare (the need for dispersal and

rapid concentration of forces at critical places) could also have contributed to the Army's break with the limited battlefield.

Man's place in war continued to be an important one. "Man remains the essential element on the battlefield."[29] The commander also retains his prominent place as he is "responsible for the success or failure of his command under all circumstances."[30] The FM stressed the need for the commander to "be identified by his troops as a dynamic, vibrant source of direction, guidance, and motivation rather than as a detached and obscure source of authority."[31] The need for initiative and decentralization were also stressed as characteristic of the modern battlefield.[32]

Battle Under Special Conditions changed only slightly. Airborne actions were removed and placed in a separate chapter with airmobile operations. That the entire section was heavily influenced by the existence of nuclear weapons and the helicopter is not to be doubted for the FM stated that the

> advent of nuclear weapons and the improvement of other weapons has weighted the fire-maneuver balance in favor of fire. This imbalance can be corrected only by a substantial increase in mobility. The use of aircraft adds new dimension to the land battle by permitting maneuver through the air.... A significant increase in mobility and maneuverability required to complement increased firepower is thus provided.[33]

The remainder of the chapter deals solely with considerations involved in the introduction and maintenance of land forces in

combat by means of aircraft.[34] Both are covered in depth and are a reflection of the increased attention given to forces that could be strategically moved by air (such as the airborne). It is also a reflection of the increasing technological sophistication of helicopters and their improved chances for survival on the battlefield.

Special Weapons have reached maturity in the 62 manual. Each section addresses considerations involved in operations in a conventional and nuclear environment. The authors recognize that when

> the authority to employ these munitions is granted, the combat power available to commanders is increased tremendously and the capability of forces at all echelons is correspondingly enhanced in both offensive and defensive combat. The results of an engagement are determined in far less time than otherwise would be required.[35]

Nuclear weapons and their delivery systems receive far more play throughout the FM than do chemical and biological weapons.[36] This indicates that the pattern of future war was expected to be more heavily influenced by the introduction of atomic weapons to the battlefield than by other mass destruction agents. It does not appear that the Army visualized the employment of chemicals or biological agents separate from that of nuclear weapons.

The increased attention given by the new administration to unconventional warfare (UW) was also evident. A separate chapter is devoted to UW and military operations against irregular forces (MOIF). The first is defined as "warfare ...

conducted within the enemy's sphere of influence largely by local personnel and resources to further military, political, or economic objectives."[37] The definition stresses UW as being an offensive ploy to use against the enemy. MOIF however, is the type US forces will be forced to counter.

> Irregular activities include acts of a military, political, psychological, and economic nature, conducted predominantly by inhabitants of a nation for the purpose of eliminating or weakening the authority of the local government or an occupying power . . . .[38]

There is some significance attached to the terms and definitions utilized. During Vietnam, the US used to refer to its anti-guerrilla activities as stability operations but recently changed the term to internal defense and development. This was supposedly to stress that progress was a key factor in such operations and that support of a corrupt or inefficient regime was not the course the US desired. The descriptive terms used in the 1962 edition of the FM appear to imply that UW in western areas is a subversive, nonlegitimate struggle with ominous overtones while UW in Communist controlled areas is a legitimate operation that has support of the populace. This idea is further strengthened by the definition of UW as operations which "exploit the vulnerabilities of an opposing nation that derive from the fundamental attitudes and characteristics of the nation . . . [and] . . . are most acute when the governmental or other controlling process is oppressive to the people.[39]

In reference to MOIF

> In liberated areas in which a friendly foreign government has been reestablished and in sovereign foreign countries in time

> of peace, the authority which United States military commanders may exercise against irregular forces is limited to that permitted by the provisions of agreements which are concluded with responsible authorities of the sovereign government concerned.
> The ideological basis of an irregular force frequently is inspired by out-of-country elements who create and sponsor irregular forces as a means of promoting their own cause.[40]

The terminology used indicates that the Army's approach is effected more by ideological considerations than military or political realities.

The 1962 version of FM100-5 is drastically different from its predecessors. It was intended primarily for use by units in the field[41] and therefore was probably designed so that the new concepts involved in Flexible Response could be rapidly disseminated. The new strategic policy of the Kennedy administration contributed to a change in how the nation looked at war and this is reflected in the attention given to the wide ranges of situations in which the FM felt that US ground combat units could be employed. The increased emphasis on UW was due to Russia's pronouncements concerning their support for "wars of liberation" (and increase in such activities throughout the world). That this coincided with Kennedy's personal infatuation with the Special Forces and UW was fortunate for the Army and helped to rapidly expand Army capabilities in this area. At the same time, advances in weapons technology (specifically the introduction of tactical nuclear weapons, the helicopter, and the armored personnel carrier) provided the Army with a mobility and destructive power it had not had before. The future

battlefield was not perceived to be either totally atomic or conventional, but whichever it was, it was to be fluid from the outset. The Army's preoccupation with the nuclear battlefield in the 50s had freed it to an extent from its conformity to the structured battlefields of World War II and enabled it to better adjust to the advances in technology. At the same time, CD was still in its growing phase. Doctrinal responsibilities were fragmented throughout the Army system with the Leavenworth responsibility for FM100-5 being one of the few stable aspects. This lack of stability was to be telling in the following years.

FOOTNOTES

[1] John Rose, The Evolution of US Army Nuclear Doctrine 1945-80 , (Boulder, Co.: Westview Press, 1980), p.93. Also Russell Weigley, The American Way of War , (New York: Macmillan Publishing Co., 1973), p.420.

[2] Weigley, Way of War , p. 420. Also Maxwell Taylor, The Uncertain Trumpet , (New York: Harper and Bros., 1960), Appendix A.

[3] John Oseth, "where the Army Has Stood," in Military Review , (Feb 1981), pp.64-5.

[4] Weigley, p. 446.

[5] Ibid.

[6] Taylor, p.83.

[7] Weigley, pp.447-9.

[8] Steven Canby, "NATO Strategy: Political-Military Problems of Divergent Interests and Operational Concept," in Military Review , (April 1979), p.51. Also Ernest Fisher, "A Strategy of Flexible Response," in Military Review , (March 1967), p. 53.

[9] Fisher, p. 9.

[10] Rose, p. 96.

[11] Taylor, p. 166. Russell Weigley, The History of the United States Army , (New York: Macmillan Publishing Co., 1967), p. 549.

[12] "Army Reaffirms Pentomic Concept," in Army, Navy, Air Force Journal , (27 Dec 1958), p.3.

[13] Robert Doughty, The Evolution of US Army Tactical Doctrine 1946-76 , (CSI: USACGSC, Aug 1979), p.19.

[14] Doughty, p.19.

[15] Letter from GEN Clarke to author dated 14 July 1983.

[16] Doughty, pp. 19-21. Binkley, p.80. Weigley, History , pp. 540-1.

[17] FM 100-5 Field Service Regulations Operations , (Washington: USGPO, Feb 1962), p. 11.

[18] Ibid, p. 44.

[19] Ibid, p. 11.

[20] Ibid, pp. 4-5.

[21] Ibid, pp. 4-6.

[22] Ibid, p. 46.

[23] Ibid.

[24] Ibid, pp. 64-73.

[25] Ibid, pp. 75-6.

[26] Ibid, pp. 73-9.

[27] Willard Wyman, "The United States Army: Its Doctrine and Influence on US Military Strategy," in Military Review , (March 1958), p.10.

[28] Doughty, p.24. See also Virgil Ney, Evolution of the US Army Division: 1938-68 , (Combat Operatios Research Group), p. 100.

[29] FM 100-5 (1962), p. 19.

[30] Ibid, p.19.

[31] Ibid.

[32] Ibid, p.20.

[33] Ibid. p. 99.

[34] Ibid.

[35] Ibid, p.18.

[36] Ibid, pp. 36-7.

[37] Ibid, p. 127.

[38] Ibid, p. 136.

[39] Ibid, p. 127.

[40] Ibid, pp. 136-7.

[41] Change 1 to FM 100-5 , p.1.

* * * * * Through 1968 * * * * *

One change to FM100-5 (1962) was published prior to the 1968 edition. The modifications that were made were trivial. The lack of change may have reflected the Army's increasing involvement in the Vietnam War. When FM100-5 (1962) was published, American involvement was minimal. Yet by 1963, American presence totalled 23,000 men and women.[1] Only two years later, American strength topped 320,000.[2] The crash nature of the Army's entry into the counterinsurgency effort caused the Army to focus on developing tactical methods and equipment for immediate employment.[3] This was obviously detrimental to the further development of the concepts contained in FM100-5 as it was then addressed to division level and above and primarily concerned with the conventional battlefield. Another possible explanation for the stagnation could be that the Army as a whole was satisfied with (or still digesting) the contents of the 1962 manual, yet though there are no indications of this.

A new edition of FM100-5 did appear in 1968. Very few changes were made in the doctrine as it had been expressed in FM100-5 (1962). The major changes came in those areas where the Army was most rapidly expanding its expertise and involvement- strategic mobility and airmobile operations. An entire chapter was devoted exclusively to airborne operations and strategic air movements. McNamara's institution of the prepositioned stores in Europe and plans to airlift divisional manpower to the sites

had apparently begun to influence Army planning.[4] Airborne forces, with their capability for rapid deployment and suitability for unconventional warfare operations (both with and against insurgents) had also received added emphasis in the Kennedy administration. These considerations may account for the prominence accorded to strategic airlift.

From the initial phases of the US involvement in Vietnam, the helicopter played a major role. It was used for every purpose from gun platform to hospital evacuation vehicle.[5] Much of the guidelines had been developed prior to substantial US involvement in Vietnam however. In 1962 the Army (at the request of Secretary McNamara) had appointed a group to undertake a study on how to improve the tactical mobility of the Army. This group, later known as the Howze Board, recommended adding three new units to the Army- the Air Assault Division, Air Cavalry Combat Brigade, and the Air Transport Brigade. An Air Assault Division was formed for testing at Fort Benning in 1963, and in 1965, the Army was authorized to field its first airmobile combat division.[6] Unfortunately the discussion of airmobile operations as found in the manual falls far short of the actual progress that had been made in the field. The chapter was primarily a discussion of planning characteristics centered around the Principles of War.[7] Obviously, other manuals and training circulars were to form the basis for the Army's doctrinal works on the helicopter.

Many Vietnam-specific experiences are reflected in the 1968

manual as well. Riverine and ranger (small unit) operations are covered under offensive operations. Riverine forces were introduced by the Army to assist in offensive actions in many areas of Vietnam where waterways were key avenues for movement. Ranger-type actions were conducted throughout Vietnam and were particularly useful in gathering intelligence.

Electronic warfare was also given expanded coverage in FM100-5 (1968). During the Vietnam years, many exotic devices had been developed to aid in gathering intelligence and to assist in finding the enemy. Other devices were brought into service to assist the combat forces in night operations and in improving their communications and control abilities. As availability increased, these devices extended the capability of the soldier and became another planning consideration for staffs and commanders to consider. More attention is also paid to countering enemy electronic counter measures such as jamming and signal interception.[8] Often the enemy was able to take advantage of the poor American communications practices and deal rather severe blows based on the intelligence gathered in this manner.

Over the twenty year period discussed so far only one major revision had been made to FM100-5. That was in 1962 when Flexible Response was embraced as a national strategy. It might be argued that the nature of war at division level and higher had not changed dramatically since World War II. But this is questionable when one compares the mass armies of World War II

to the limited nature of Vietnam and Korea and the massive integration of advanced technology that had occurred. A more likely answer could be the lack of interest concerning the manual and doctrine formulation that the Army possessed during this period.

As early as 1916, writers in the military were expressing their doubts as to the officer corps' interest in doctrine

> both the American military services as a whole are unfamiliar even with the meaning of the term "doctrine" when used in its purely military sense, and fail to comprehend its importance as well as its role in bringing about timely and united action in the midst of hostilities.[9]

This attitude was not limited solely to the pre-World War I period for even other, more well known soldiers were not interested in the "capstone" FM at a later date. GEN Bruce C. Clarke (Commander of CONARC when it had doctrinal responsibility for FM 100-5) stated that

> I never had anything to do with writing FM100-5; nor can I ever recall reading it while in my commands. Such things are usually written by English majors with limited military experience.[10]

> I've never seen it referred to in Div, Corps, Army and Army Group Hqtrs in my commands. Maybe it should have been.

> We have few writers who understand the reception of military academic concepts by tactical units in the field. The writers of these concepts usually have very little prestige in combat situations.[11]

> I never heard mention (of) FM100-5 when I commanded troops in 2 wars. I am sure that Ike and George were not following the edition of the day.

Even those on active duty today have commented on the

indifference of the Army to the FM. GEN Donn Starry, one of the principal authors of the 1976 version had this to say about FM 100-5 prior to 1976:

> Our army has regulations that cover many subjects- almost all subjects it seems save military tactics. Whether this is by design- to protect the ignorant- or by oversight is not at all obvious. Most probably, it's because, since we all consider ourselves tactical experts, we can never agree sufficiently and for long enough to write a regulation about tactics. However, we do set forth operational concepts- tactics- in field manuals. Normally, these manuals live a pretty quiet life, serving as references or as exhibits for various inspectors' checklists. In many cases, one finds they are little read, less often followed and not exactly the prime topic of Army conversation - professional or social.[13]

Other soldiers, just as illustrious, have other opinions. For example, GEN Maxwell Taylor

> the Field Service regulations was an important document between World Wars I and II, serving as a guide for field operations and a basis for the instruction at Leavenworth. In general, it represented the tactical experience acquired by the Army in World War I. FM 100-5 in its various editions has apparently tried to do much the same, in following the experiences of World War II, Korea and Vietnam. I had nothing to do with editing any of these texts nor did I have much occasion to examine their content carefully.[14]

COL (ret.) T.N. Dupuy, author of many books on military history, commented on the 1956 FM in Military Review.

> The latest edition of Field Manual 100-5 ... is a very fine manual indeed. It is a reassuring and comforting to read its sound, forward-looking exposition of current Army doctrine. Thoughtful soldiers will appreciate the restatement of the principles of war as fundamental truths proved by the lessons of history; and will approve clearly expressed recognition that these principles

> are no magic formula for victory ....[15]

Feelings over the manual reflect one of the age-old aspects of the military- that of the conflict between line and staff. Gen James Gavin commented that

> I would suspect that the quote attributed to General Clarke [about FM 100-5] is accurate. Many of the senior officers, who did not have long-time service in the Pentagon, would tend to be rather critical of the manual that came out of the Pentagon staff discussions. They generally were of the opinion that only field soldiers could produce an adequate line manual.[16]

My personal experience as an active duty officer tends to confirm the Army's indifference to the FM. The material contained in FM100-5 is of a general nature and of little applicability when one is in the field. Even in the school system the attitude that prevails is that when one explicitly follows the "book" or "school" solution one's life expectancy is dramatically shortened. I therefore seriously doubt that the manual was ever used as a guideline by troops in the field. Its greatest utility was probably as a teaching device in the school system where company grade or junior field grade officers could become familiar with division and above operations. This could account for the higher ranking officers' lack of interest in and exposure to the FM that was alluded to before. Certainly temperaments also had a lot to do with it. Those who stress action (such as Patton and Clarke) would be less likely to pay attention to the manual than those (like Taylor and Dupuy) who were more academically oriented. Then again, writing of FMs was

looked down upon by all "true" soldiers (see Clarke's statements) as being menial and unimportant work. This unpleasant task was probably farmed out to someone who it was felt could not be trusted with troop command and was a high level form of "make work."

Another interesting speculation is that the Army continued to produce the manual only half-heartedly yet with enough substance to give it credibility with the goal of satisfying political criticism. This could account in part for the inclusion of the Pearl Harbor report in the 1949 and 1954 editions and the inclusion of the discussion of the Spectrum of War and flexible military power as found in the 62 and 68 editions. Again however, as there was no supervisory body that reconciled military capabilities with requirements (see Taylor's earlier comments) chances are that there was no civilian interest in the FM either.

Probably more plausible is the idea that the FM was taken seriously as a teaching tool but inadequately developed due to the ill-defined process of doctrine formulation. Reference has been made as to how the G3 retained responsibility for doctrine development until the establishment of CONARC. This section was forced out of necessity to concentrate on operational problems to the detriment of doctrine formulation. Mention has also been made of how the CD effort remained fragmented throughout the decade of the 60s. It appears therefore that

> the lag which has characterized the

> development of military doctrine stems not from the "ignorance and formalism of blimpish generals" resisting innovation, but, rather, from a widespread failure to understand and to perfect the complex process of generalization by which sound doctrine is formulated.[17]

This goes hand in hand with the complaint GEN Taylor voiced earlier concerning the lack of an agency that correlated defense requirements with forces on hand and budget allocations. Nowhere have I been able to find mention of an office that regulated the development of FM100-5 other than mention that it was Fort Leavenworth's responsibility to publish and update it. As MG I.B. Holley stated

> There are many organizations addressing doctrinal problems, but how many of them have perfected adequate procedures to ensure that the doctrines produced represent only the most refined distillates from experience? ... On can find statements indicating which organizations are responsible but very little guidance on how the flow of information is secured and how the analysis is to be conducted.[18] (Emphasis is Holley's.)

This was to change following Vietnam.

FOOTNOTES

[1] Russell Weigley, The American Way of War , (New York: Macmillan Publishing Co., 1973), pp. 460-1.

[2] Russell Weigley, The History of the United States Army , (New york: Macmillan Publishing Co., 1969), p. 544.

[3] Robert Doughty, The Evolution of US Army Tactical Doctrine, 1946-76 , (CSI: USCGSC, Aug 1979), pp. 26-7.

[4] Weigley, History , pp. 537-42.

[5] Doughty, p. 31.

[6] Ernest Fisher, "A Strategy of Flexible Response," in Military Review , (March 1967), pp. 76-7.

[7] FM100-5 Operations of Army Forces in the Field 1968 , (Washington: USGPO, Sept 1968), see Chapter 11.

[8] Ibid, pp. 4-11 to 4-13.

[9] Dudley Knox, The Doctrine of War: Its Relation to Theory and Principles , (DTIC Number AD-A098311).

[10] Letter from GEN Clarke to author dated 14 July 1983.

[11] Ibid.

[12] Comments from GEN Clarke on a letter from D.D. Eisenhower to him dated 15 September 1967.

[13] GEN Donn Starry, "FM100-5," in Military Review , (August 1978), p. 3.

[14] Letter from GEN Taylor to the author dated 18 July 1983.

[15] T.N. Dupuy, "War Without Victory," in Military Review , (March 1956), p.28.

[16] Letter from EN James Gavin to author dated 20 July 1983.

[17] I.B. Holley, "The Doctrinal Process: Some Suggested Steps," in Military Review , (April 1979), p. 13.

[18] Ibid.

* * * * * 1976 The Substantial Renaissance * * * * *

The Army's situation following Vietnam was one that was ripe for the introduction of substantial changes in the way the Army was structured and fought.[1] The US was withdrawing from Vietnam where it had been engaged in offensive operations for more than a decade against light and elusive forces.[2] USAREUR's capabilities had been rent asunder by its role as a rotation center for units in Vietnam and the CD effort had neglected Europe in its efforts to support the counter guerrilla struggle.[3] Concurrently at the national level, the Nixon Doctrine was beginning to take hold. This policy guaranteed that the US would keep its treaty commitments, provide a nuclear shield for our friends, and furnish assistance against aggression to its allies.[4] There was still however, no well articulated national military policy[5] so the Army began to concentrate on the defense of Central Europe against a large, modern, and well equipped Soviet force.[6] As the Army refocused on Europe it found it had sacrificed a decade of doctrinal and material advances in the Central Region to a revitalized Warsaw Pact which was in the process of an unprecedented modernization.[7]

Into this uncertain environment stepped GEN Creighton Abrams as Army Chief of Staff

> Few if any leaders have had a more profound effect on a bureaucracy. Preparedness in the field had always been his obsession, and now he had the authority to go after the "paper-pushers." He closed seven regional Army headquarters and disbanded numerous

> support units to redirect Army focus and funds to the combat units.[8]

One of the major structural changes instituted was the formation of the Training and Doctrine Command (TRADOC) and its absorption of the Combat Developments Command.

> With this change TRADOC assumed responsibility for "identifying the need for change, and describing clearly what ... [was] ... to be done and how that differs from what has been done before."[9]

This was a dramatic shift in the structure of the Army's CD program and finally placed all doctrinal and development agencies under one commander who retained that function as a major responsibility.

The first commander of TRADOC, GEN William DePuy, took over in June of 1973. Prior to this however, he had had a meeting with GEN Abrams (CoS), MG Donn Starry (enroute to be Commandant of the Armor School), and GEN Thurman (representing the Assistant Vice Chief of Staff). The purpose of the meeting was to decide what areas TRADOC should tackle first.[10] The consensus was that the US would be faced by two possible types of conflict, either a mechanized war along European lines, or one more like the Vietnam, Lebanese, or Dominican Republic experiences. It was agreed that although the latter was more likely, the former posed the most severe threat to the US and should be addressed first.[11] GEN DePuy was therefore instructed to look at and review the Army's doctrine and put its "doctrinal house in order."[12] It was felt that a substantial amount of updating

was needed since there had been no major changes in doctrine since World War II.[13] No specific constraints or guidelines were given to GEN DePuy as to what realignments were necessary. "GEN Abrams gave me [GEN DePuy] carte blanche. However, his [GEN Abrams'] ideas and mine [GEN DePuy's] were identical on tactics."[14] GENs DePuy and Gorman later decided that the revisons should consist of a series of training circulars that would be expanded and turned into field manuals after being in the field for some time.[15]

Other external events were to influence Army doctrine. In October 1973 there occurred the Yom Kippur War which was to have an impact out of proportion to the size of the forces engaged. "This was a kind of fortuitous occurrence for those involved in restudying how the Army ought to fight."[16] "The startling violence and consuming nature of that war served to accelerate the transition from the previous focus on counterinsurgency to the new focus on conventional warfare."[17] GEN Abrams directed TRADOC to summarize the lessons of the 1973 war and examine their impact on the doctrine and tactics of the US Army.[18] Many studies were made and the results were compiled in the early months of 1974.[19] After reviewing these studies, the Army leadership determined that the US was severely unprepared to combat a Soviet threat and felt that "Revision of Army tactical doctrine literature was ... the appropriate solution."[20] In October of 1974 DePuy wrote to the Commandants of the various Army schools (who now fell under TRADOC control) and announced his intention to rewrite all the

important FMs by June of 1976.[21]

In conjunction with this in December 1974 the first in a series of three conferences which were to take place at Camp A.P. Hill was convened. GEN DePuy called his senior commanders together in order to discuss how to tackle the problem of doctrine development. It was here that the series of "How-To-Fight" (HTF) manuals was proposed.[22] These manuals were to break tradition with their predecessors in both content and format. Although utilizing FM100-5 as the "capstone," there were to be 42 (later 47) topics covered in separate books. All were to stress simplicity in presenting their concepts coupled with straightforward writing and graphics to enhance their message.[23]

GEN DePuy felt that these manuals should be field manuals for field soldiers and strongly supported the HTF idea. All present were apparently critical of previous FMs and the manner in which the Army presented its doctrine. An excerpt from a video taped briefing on FM 100-5 to the staff of the CGSC highlights this attitude.

> The current situation with regard to tactical competence in the army is indeed not good. I believe that is an understatement. Unfortunately, this situation originates largely in our schools, which over the years fostered ...A preoccupation with jargon, acronyms, rules, tactical forms, prescribed methods, check lists, over-elaborate and pretentious definitions, and so on, ... our new manuals have got to help combat the old pedantry and scholasticism, not only in their formulation but in their language as well.[24]

Although work was started on all HTF manuals, the key one was recognized as being FM100-5 since it set the tone for all the others. Ft. Leavenworth initially retained the responsibility for writing the FM with one colonel from the CGSC staff tasked with writing it. His instructions from GEN Cushman, Commandant of CGSC, apparently were to "go listen to GEN DePuy's speeches and write FM100-5 ."[25] Unfortunately, erudite speeches were not enough to produce a suitable field manual and by April 1975 a fourth draft of FM100-5 was being written. It was at this time that the second A.P. Hill conference took place.

> The first evening of the 2 1/2 day conference, GEN DePuy had us all divided into groups. Each group was assigned a specific piece of 100-5 to write. GEN Gorman headed up the offense chapter. GEN Tarpley of Ft Benning, then Commandant, headed up the defense chapter. BG Mueller, the AC of Benning, headed up the retrograde chapter and GEN DePuy personally took charge of the intelligence chapter, as I recall using COL Gazley [author of the previous drafts of the 76 edition]. GEN Cushman was given nothing to do.
>
> We wrote furiously and then everything was typed furiously. The evening of the second day of the conference we met again, for the purpose of briefing what we had done during the course of the day....
>
> I forgot the bottom line on Camp A.P. Hill on the second meeting. Once everybody had briefed on their chapters, GEN DePuy turned to GEN Gorman and said, "Paul, pick up all these papers and we'll take the thing back to Ft Monroe and finisn 100-5." And it was only then that the real purpose of the second meeting at A.P. Hill became apparent to some, but not to all. And that purpose was to quietly take 100-5 away from Leavenworth so that GEN DePuy could personally take charge of the effort at Ft Monroe.[26]

When asked if the manual's development was taken from Leavenworth due to his dissatisfaction with Leavenworth's attempts, GEN DePuy simply stated "Yes."[27]

Things were not to go smoothly at TRADOC headquarters either. A Concepts Section had been established in the office of the Deputy Chief of Staff for Training in August of 1974. This group was given responsibility for continuing the work begun at the second conference. GEN DePuy remained dissatisfied with the work on the FM however, and decided to call a third meeting at A.P. Hill in November of 1975. Here he and a select few were supposed to finish the manual. At this meeting, the chapters were broken down in this manner:

GEN DePuy	Chapter 1 US Army Objectives
GEN Gorman	Chapter 2 Modern Weapons on the Battlefield
GENs DePuy and Gorman	Chapter 3 How to Fight
GEN Starry	Chapter 5 Defense
"	Chapter 6 Retrograde Operations
GENs DePuy and Starry	Chapter 4 Offense

The remainder were written over time by the various schools.[28]

From that time until its publication in 1976, the development of FM100-5 became a project that was supervised personally by GEN DePuy. Much of the later work he did himself.[29] The finishing touches were not completed in a vacuum however. All active duty three- and four-star generals were invited to comment on earlier drafts. All retired four-star generals were also consulted, as were others.[30] Such notables as S.L.A. Marshall and GEN James Gavin were even asked for comments. Coordination of the concepts were made with the Germans (to

ensure continuity with their FM100-100 Command in Battle), the Israelis, and the Tactical Air Command.[31] Throughout the Army's senior leadership there was widespread support for the changes.

The end product differed substantially from the 1968 version. The first difference, that of format and presentation style has been mentioned. A second major difference in its philosophy was that it was "NATO driven, weapon oriented and an effort to simplify for training purposes."[32] The focus was on mechanized warfare and weapons characteristics, trends, and applications were emphasized.[33] A third consideration that weighed heavily on the manual was the need for compatibility with the German policy of forward defense along the border.[34] This constrained much of the later defensive operational planning and tactical thinking. A fourth political factor that was reflected was the idea that nuclear weapons were to be used only as a last resort.

> It appears to be a major planning assumption of the new "How to Fight" manuals that a Soviet/Warsaw Pact attack will be nonnuclear and will be countered by nonnuclear means. As such, Army doctrinal developments have been influenced more by the changes in the intensity and lethality of conventional weaponry that has evolved over the past several decades than by nuclear developments and the Soviet emphasis given to warfare in a nuclear environment.[35]

There is no doubt as to the purpose of the manual.

> This manual sets forth the basic concepts of US Army doctrine. These concepts form the foundation for what is taught in our service schools, and the guide for training and combat developments throughout the Army.

> This manual is intended for use by commanders and trainers at all echelons.[36]

That the FM was designed to be read and studied is further confirmed by the attention that went into designing its format. One other little recognized aspect intended to gain visibility for the manual is that it was publicized heavily, unlike its predecessors.

> 100-5 is probably the most widely read field manual ever published in the United States Army. It was published with a great deal of advertising and set forth the new doctrine for the United States Army. Previous editions of 100-5, and in fact all of the field manuals, had been published without fanfare, and therefore never did receive much attention.[37]

It was however, also targeted at general officers and designed to make them appreciate how the battlefield had changed since the US had last engaged in conventional combat.[38]

A secondary purpose of the manual was to drag the entire Army away from the World War II mindset and into the 70's. The emphasis on the first battle was an attempt to offset the assumptions which had governed military policy in the past- that time and material would eventually rectify initial disadvantages.[39] This was the primary goal for Chapter 2

> During the past several decades, the nature of battle has changed- not abruptly but nonetheless significantly. The war in the Middle East in 1973 might well portend the nature of modern battle. Arabs and Israelis were armed with the latest weapons, and the conflict approached a destructiveness once attributed only to nuclear arms.[40]

Once again the offense is the preferred form of combat.[41] The

types of offensive operations listed are the movement to contact, hasty attack, deliberate attack, exploitation, and pursuit.[42] In contrast to the 1968 FM the defense is rated almost as highly as the offense.

> While it is generally true that the outcome of combat derives from the results of offensive operations, it may frequently be necessary, even advisable, to defend.... In fact the defender has every advantage but one- he does not have the initiative. To gain the initiative he must attack. Therefore, attack is a vital part of all defensive operations.[43]

Contrary to previous editions, there is no distinction between mobile or position defense. The battle is viewed as being conducted through the use of battle positions at battalion and company level in which the commander positions and maneuvers his forces so to delay, defend, or attack. The defense was elastic, not brittle, and seen to be fluid.[44] GEN DePuy called it "a mobile defense with the action compressed into a relatively shallow zone forward along the German border."[45] Later this defense was to be known as the "active defense."

The name was chosen by GEN DePuy because "we were forced to choose a name ... [since] ... people were assigning their own names most of which carried the wrong message."[46] The process used in developing the name for the defense is illuminating.

> The next sequence occurred in January... 1976. During an Israeli symposium held at Knox we had three evenings meetings at Henry House .... Those in attendance were GEN DePuy, MAJ Wilder, GEN Latham, COL Bradford, GEN Starry and LTC Scribner. The purpose of the meetings was to further discuss and come up with a name for the defense.... As I recall the second night when we met, there had been a party at COL Otis' house. DePuy

> preceded Starry and Latham to the Henry House and when he walked in, Wilder, Scribner, and Bradford were already there with charts showing what it was that we had come up with. We recommended the mobile defense and GEN DePuy said, "Nope. We're gonna call it the active defense." And that's how the name active defense was born. I have since figured out that one of the reasons why he liked the name ... was because it was the name used to describe a defense similar to the active defense used by the Soviets on the Eastern Front in World War II. He had just recently read some pamphlets which described interviews with German generals following World War II in which he came across the active defense.[47]

DePuy stated that the closest analogy to active defense was the 11th Panzer Division defense of the Chir under GEN Hermann Balck. DePuy knew Balck and the latter's experiences may have helped form DePuy's concepts.[48]

The defensive zone was organized into three areas, the covering force area, main battle area, and rear area.[49] Although similar to the defensive echelons found in the 1968 version, there were major differences. The covering forces were to fight the enemy and force him to deploy. Their mission was to strip away the enemy's reconnaissance elements and reveal where the main enemy thrust was heading. This is in marked contrast to the earlier security zone which was primarily a reconnaissance screen. The main battle area was "the area in which the main battle will be fought."[50] Unlike the earlier mobile defense, the new concept stressed fighting the battle as far forward as possible. It was here that the manual perhaps makes an original contribution to tactical theory. In the strategic defense, reserves are ofttimes considered to be those forces uncommited or least engaged. The 1976 edition asserts that tactical forces

can be viewed in the same manner Concentration of these unengaged units from within the battle area is seen as the best means of obtaining reserves.[51] The rear area became the area for combat and administrative support units to operate in, in contrast to the 1968 edition where the reserve area contained the counterattack force.[52] Apparently, much of the work that resulted in the change in the composition and mission of the battle areas was done at Ft. Knox in a study called Hunfeld II.[53] This was a manual simulation designed to determine what the strength of the covering force should be

Once again, the name for the covering force was coined by GEN DePuy.

> During 1974 and 75...how to defend was argued at Leavenworth. Ultimately the active defense as described by Knox was indorsed by GEN DePuy and adopted. However, one thing that occurred was a change from the term initial battle area to covering force area.... As the argument ensued, GEN DePuy asked the Canadian Liason Officer at Ft Leavenworth what they called their forward area. He said "covering force area" and from then on the name stuck.[54]

Unconventional warfare is not addressed in the manual. It is instead, covered in a separate field manual entitled Counter Guerilla Operations. This is apparently recognition that UW is a highly specialized operation and out of the ordinary for the Army. It may also have been separated as part of the effort to refocus the Army on Europe and away from Vietnam.

The role of the leader and need for solid, realistic training is stressed throughout the manual. The third chapter of the FM replaces, in effect, the sections on command and leadership in

previous editions. This chapter is simply entitled "How to Fight." The role played by leaders in the new doctrine is discussed in detail. The thrust of the section is on combat unit leaders and what actions they need to take, highlighting the desire to produce a usable manual for field soldiers.[55]

The chapters on special weapons were written by the US Army Nuclear and Chemical Agency. When the draft was compiled, classified release times were placed in it. GEN DePuy overrode the objections of those who were concerned with security and published the FM as it was.[56] Both sections stress US vulnerabilities and strengths in both fields while attempting to provide guidance for use in the field. Although the US ruled out first use of chemical weapons in accordance with the Geneva Convention,[57] it retained the option of using nuclear weapons if and when it was felt they would be needed for defensive purposes.[58] Nuclear weapons remained, however, ancillary to the conventional battle.[59] Again, this was motivated by political concerns as it was in the 1968 edition.

It is difficult to say what had the greatest effect on FM100-5 (1976). It appeared at a time when the Army as well as the nation was undergoing a period of deep introspection following the Vietnam War. Once again, the US saw its security linked primarily to the defense of Western Europe. Here the Soviets had been steadily pursuing a program of modernization that alarmed leaders at all levels of the military. At the same time, organizational changes in the Army brought about the first

institution designed to elucidate the requirements for and oversee the development of doctrine in the same agency (TRADOC). Several talented and dynamic personalities surfaced during this period and had a marked influence on the development of the doctrine as portrayed in the FMs. Although many senior military officials reviewed the FM, the final version of FM100-5 (1976) remained a personal project of the TRADOC commander, GEN DePuy (in conjunction with GENs Starry and Gorman) and reflects his opinions. The 1973 Arab-Israeli War oriented the Army on weapons and systems, forcing it to come out of its doctrinal mindset which had been based on World War II equipment and tactics. The final edition of FM100-5 (1976) therefore sparked what GEN DePuy was later to call a "substantial renaissance" in doctrine.

FOOTNOTES

[1] Robert Doughty, The Evolution of US Army Tactical Doctrine, 1946-76 , (CSI: USACGSC, Aug 1979), p. 40.

[2] William DePuy, "FM100-5 Revisited," unpublished manuscript (MS), p.1.

[3] Donn Starry, "FM100-5," in Military Review , (Aug 1978), pp. 3-5.

[4] Starry, p.5. Also Gustav Hagglund, "United States NATO Strategy," in Military Review , (January 1974), pp.39-40.

[5] Starry, p.5.

[6] DePuy, p.1.

[7] Wayne Downing, "US Army Operations Doctrine: A Challenge for the 1980s and Beyond," in Military Review , (January 1981), p. 65.

[8] Melvin Laird, "Unforgettable Creighton Abrams," in Reader's Digest , (July 1976), pp. 75-6.

[9] Huba Wass de Czege, "Answering the Army's Critics," unpublished MS, p. 19.

[10] Edwin Scribner, "Doctrine Development by TRADOC May 1973 - December 1979," unpublished MS, p. 1.

[11] Starry, p. 5, and Doughty, p. 40.

[12] Interview with COL Edwin Scribner May 1983.

[13] Starry, p. 5, and Scribner MS, p.1.

[14] Letter from GEN William DePuy to author dated 13 July 1983.

[15] Scribner MS, p.1.

[16] Ibid.

[17] Doughty, p. 41.

[18] John Rose, The Evolution of US Army Nuclear Doctrine 1945-80 , (Boulder, CO.: Westview Press, 1980), p 116.

[19] Scribner MS, p. 1.

[20] Rose, p. 121, Deczege, p. 20, and Doughty, p. 41.

[21] Rose, p 121.

[22] Scribner MS, pp 2-3.

23 Rose, p.123.

24 Text of TV Presentation on FM 100-5 , unpublished MS, 9 December 1974, pp. 3-4.

25 Scribner MS, p.4.

26 Ibid.

27 Letter from DePuy.

28 Scribner MS, pp. 3-5.

29 DePuy Letter.

30 Clifton Berry, "FM 100-5 Operations," in Military Review , (October 1976), pp. 33-6.

31 Ibid, and Text of TV Presentation , p.1.

32 Letter from DePuy.

33 DePuy, "FM 100-5 Revisited," p. 1.

34 DePuy Letter.

35 Rose, p. 124.

36 Operations FM 100-5 , (Washington: USGPO, July 1976), p. 1

37 Scribner, p.5.

38 Scribner interview

39 "TRADOC's Reply," in Armed Forces Journal International , (October 1976) p. 37

40 FM 100-5 (1976), pp. 2-1 to 2-2.

41 "TRADOC's Reply," pp. 27-8.

42 FM 100-5 (1976), pp. 4-9 to 4-12

43 Ibid, p. 5-2.

44 Doughty, p. 45.

45 DePuy letter.

46 Ibid.

47 Scribner MS, p. 8.

48 DePuy letter

[49] FM 100-5 (1976), p. 5-10.

[50] Ibid, p. 5-14.

[51] Archer Jones, "The New FM100-5 OPERATIONS," in Military Review, (February 1978), p. 27.

[52] FM100-5 (1976), p. 5-14.

[53] Scribner ME, p.5.

[54] Ibid, pp. 9-10.

[55] FM 100-5 (1976), pp. 3-1 to 17.

[56] Scribner ME, p.5.

[57] FM 100-5 (1976), p. 11-2.

[58] Ibid, p. 10-8.

[59] Doughty, p. 42.

* * * * * CONCLUSION * * * * *

Since 1945 the character of the material placed in FM 100-5 has been shaped by a number of factors external to and within the military. The 1949 edition was a reflection of the Army's WWII experiences and the numerous postwar conferences commissioned to review the Army s tactics and organization. Europe was the theater from which the majority of the lessons were drawn and FM 100-5 (1949) continued to retain a conventional, mass army orientation towards combat. The implications of the atomic bomb were only beginning to be felt however and the Army s role in future land combat was slowly being overshadowed by the Air Force s "Big Bombers."

Although the Korean War was a very different conflict from that of WWII the tactics and doctrine employed there remained essentially those found in FM 100-5 (1949). The 1954 edition contained a few changes in the concept of offensive operations that could be attributed to experience gained in the Korean War, but no substantial differences were introduced. Emphasis on the atomic bomb and Air Force delivery means had taken much of the available research and procurement funding from the Army and so the weapons in use in the early 1950s were predominantly those that had been used in 1945. Tactics therefore reflected the weaponry available. The rise of Massive Retaliation and its preeminence in the 1950s was detrimental to the Army and forced its leadership to engage in a continuous struggle for the Army's survival as a functioning entity. The interest of the officer corps was therefore riveted to the atomic battlefield throughout

the 1950s but tended to focus on adapting WWII tactics to atomic conditions and developing new organizations (the Pentomic Division and ETRAC) as solutions to the problems it faced. Korea had also developed an attitude in the officer corps that fostered careerism as opposed to professionalism and readiness and doctrinal issues suffered from neglect. All these factors combined to retard the development of doctrine as expressed in FM 100-5 throughout the early 1950s.

The first major change in the FM since WWII was brought about in 1961 in conjunction with the election of a new president. The land combat role was given new emphasis and the Army once again regained a status equal to that of the other services. UW became a key part of the Army's reason for existence due to Kennedy's personal interest in it and also to the announced intentions of the Soviets to support it. To reorient the Army from the nuclear battlefield and prepare it for UW and conventional operations, a new, more flexible division structure was adopted (ROAD). Although these actions were taken to enhance the ability of the Army to respond to a wide range of situations worldwide, the emphasis remained on the European threat. Doctrine as found in FM 100-5 therefore changed only slightly. One significant change however was the inclusion of a lengthy discussion of the nation's new strategy (which had been brought about by the change in political leadership) and its implications for the Army.

Technological advances also made minor inroads into the manual.

During the 1950s tactical nuclear weapons had been developed which could be easily employed on the 1960 battlefield. Special weapons had come of age and although they remained secondary to the conventional effort, the Army recognized that their introduction would bring about fundamental changes to the battlefield. Airmobile operations were finally addressed on a large scale and became a prominent part of the Army's arsenal. This was partly in answer to the problems brought about by the increasingly destructive power of nuclear weapons and partly due to the UW threat.

From 1962 until 1975 changes in the FM were limited even though a new edition appeared in 1968. Strategic airlift gained a prominent position in the manual through the introduction of prepositioned equipment and the need for rapidly deployable forces required by Flexible Response. Airmobility continued to gain importance as the Army's role in Vietnam grew and the helicopter became the Army's workhorse there. The use of electronic warfare devices also increased as America attempted to bring its technological sophistication into play and this is reflected in the increased coverage this subject received in FM 100-5 (1968). Unfortunately for the development of FM 100-5, the war in Vietnam consumed almost all of the Army's energies and so conventional combat was neglected. Even if the Army had been able to devote time to other areas, doctrinal responsibilities were so fragmented amongst various Army agencies that control and coordination of their efforts was difficult and unproductive. At the same time, Army leadership at all levels

apparently ignored FM 100-5 and failed to utilize its potential as a training and standardization tool.

The decade following Vietnam changed all this. The time was ripe for major revisions in the way the Army functioned. The Vietnam trauma had brought about a great deal of introspection on the part of the officer corps and there emerged widespread recognition that the Army's organization and doctrine required revision. The division of CONARC into FORSCOM and TRADOC was an organizational move to bring all CD efforts under one agency and thus provide the framework for the solution to the doctrinal problem. But even this might not have been enough had not GEN Abrams been appointed CoS and GEN DePuy the TRADOC Commander. Both set out to institute major revisions in the Army's organization and philosophy and were strong enough to make the changes take hold. The result was that the Army was reoriented towards a conventional European role as its major concern and began to seriously review its doctrine.

The 1973 war in the Middle East also effected the U.S. Army tremendously as it erupted during these efforts to reform the military. It pointed out in dramatic fashion how the technology of the 40s had been replaced by more devastating weaponry. The information gleaned from the Army's investigation of this conflict was studied in depth and was a major factor in the high visibility weapons systems received in FM 100-5 (1976).

The 1976 FM was to become the personal project of GEN William

DePuy and his influence on the manual is unmistakable. Even so, others figured prominently in its development. GENs Starry, Gorman, and Maddox in particular contributed significantly to the doctrine in FM 100-5 (1976). Almost all senior officers had the opportunity to comment on it as it was reviewed by the upper echelons of the Army.

Political realities also shaped much of the material in the new FM. The German policy of forward defense along the border conditioned the defensive doctrine that ultimately became known as the "Active Defense." It was emphasized in the manual to such a degree however that the Army was criticized as being defensively oriented for many years. This was not the intention of the authors of the FM and the authors remained adamant supporters of the offense.

The thread that links all the FMs together is that until the mid-1970s, FM 100-5 was largely ignored by the Army leadership. The FM was never treated seriously as a manual for use in the field and was looked upon with disdain by the majority of the military. The lack of interest is confirmed by the lack of knowledge the senior officers professed to have concerning the FM. This points to the inability of the Army to recognize the role doctrine should play in achieving unity of thought and effort among its units and leaders. The formation of TRADOC was a partial recognition of the need for the construction of a solid doctrinal base. Until this organization was brought into existence, doctrine formulation was fragmented

throughout the Army and there was no one final source of authority for doctrinal matters.

Reference has been made to Holley's statement that the lack of development in doctrine was caused less by the incompetence and ignorance of blimpish generals than by a lack of understanding of what doctrine is and how it is to be developed. When the development of FM 100-5 from World War II to 1975 is considered this statement appears to be true. A new version of the FM was published in 1982. It differs markedly from that brought out in 1976. Whether it will have the impact that the 1976 FM did remains to be seen. Let us hope that it will not be consigned to oblivion as were many of its predecessors.

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Letter from GEN Donn Starry to author dated 16 August 1983.

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Memorandum for Record: Consolidation of Comments (required by Deputy Commandant of CGSC of the Faculty Concerning) FM100-5. Unclassified 14 March 1978. CARL Contains brief comments by each faculty member concerning the strengths and weaknesses of FM100-5 as they see them. Interesting viewpoints on the 76 edition.

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Cooling, B.F. "Creighton Abrams at thge US Army War College." Military Review, June 78, pp. 73-8. Discusses a paper that Abrams wrote when a student at the War College argueing in favor of increasing the number of mechanized divisions in the Army.

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Dupuy, T.N. "War Without Victory." Military Review March 1956, pp. 28-32. Takes FM100-5 to task for statement that victory as an aim of war cannot be justified. One of the very few articles that mention FM100-5 prior to 1976.

Fehrenbach, T.R. This Kind of War. New York: The Macmillan Co., 1963. Excellent history of Korea on the GI level. Not of use for a study of FM100-5.

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and the Nixon Doctrine. Not of use.

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APPENDIX A - Abbreviations

CD - Combat Developments

CGSC or USCGSC - Command and General Staff College

CONARC - Continental Army Command

CoS - Chief of Staff

COP - Combat Outpost

CSI - Combat Studies Institute

DA - Department of the Army

DoD - Department of Defense

GOP - General Outpost

FM - Field Manual

JCS - Joint Chiefs of Staff

JSOP - Joint Strategic Objectives Plan

MLR - Main Line of Resistance

MOIF - Military Operations Against Irregular Forces

MOMAR I - Modern Mobile Army I

NSC - National Security Council

OP - Outposts

ORO - Operations Research Office

ROAD - Reorganization Objectives Army Division

STRAC - Strategic Army Corps

UW - Unconventional Warfare

WSEG - Weapons System Evaluation Group

APPENDIX B - Organizations and Individuals Contacted for Study of FM100-5

Combined Arms Research Library, Command and General Staff College, Ft. Leavenworth, KS.

Department of Tactics, USA Command and General Staff College, Ft. Leavenworth, KS. (Agency reponsible for FM100-5 .)

GEN Bruce C Clarke

GEN Matthew Ridgway

GEN James Gavin

GEN Maxwell Taylor

GEN William DePuy

GEN Donn Starry

Combined Arms Library, Ft. Knox, KY.

Combined Arms Library, Ft. Benning, Ga.

Department of Tactics, Ft. Knox, Ga.

Department of Tactics, Ft. Benning, Ga.

Center for Military History, Washington, D.C.

GEN John Cushman

Doctrine Department, TRADOC Headquarters, Ft. Monroe, VA.

US Army Military History Institute, Carlisle Barracks, PA.

COL Edwin Scribner

Combat Studies Institute, Ft. Leavenworth, KS.

General Services Administration National Archives and Records Service, Washington, D.C.