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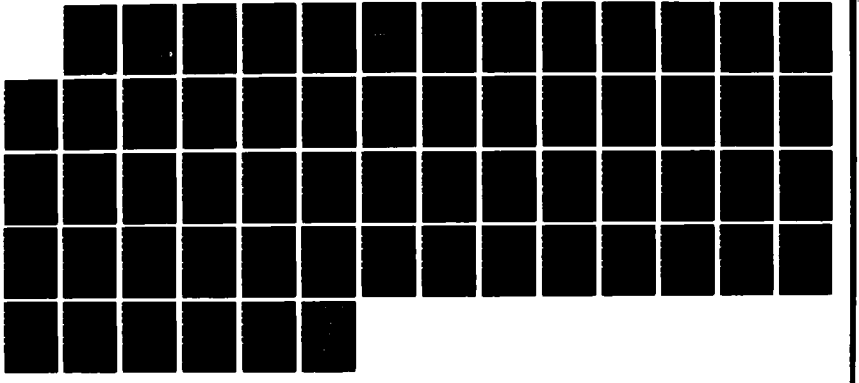

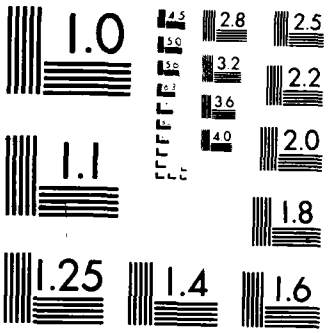
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CONTINUOUS OPERATIONS: THE TIME DIMENSION OF BATTLE

by

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School of Advanced Military Studies
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December, 1987

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION: UNCLASSIFIED	1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION/AVAILABILITY OF REPORT: Approved for public release distribution unlimited
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S)	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION: School of Advanced Military Studies, USC&GSC; 6b. OFFICE SYMBOL (If applicable): ATZL-SWV	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (City, State, and ZIP Code): Ft. Leavenworth, KS, 66027-6900	7b. ADDRESS (City, State, and ZIP Code)
8a. NAME OF FUNDING/SPONSORING ORGANIZATION; 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code)	10. SOURCE OF FUNDING NUMBERS: PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO. / WORK UNIT ACCESSION NO.

11. TITLE (Include Security Classification)
Continuous Operations: The Time Dimension of Battle (U)

12. PERSONAL AUTHOR(S)
MAJ Thomas M. McGinnis

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
Monograph	FROM _____ TO _____	December 1987	52

16. SUPPLEMENTARY NOTATION

17. COSATI CODES		
FIELD	GROUP	SUB-GROUP

18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
Continuous operations, 104th Infantry Division
Night Operations, sustained operations

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

This paper examines the conduct of continuous operations from the theoretical, historical and doctrinal perspective. To define the problem, it begins with an overview of the recent research in the field. It then closely examines a division which sucessfully conducted continuous operations during World War II. Finally, it reviews current American and Soviet doctrine on the subject to determine if it addresses the issues raised by the theory and case study. The division studied in the case study is the 104th Infantry Division in its battles from the Roer to the Rhine from 23 Feb to 7 Mar 1945. The division's performance is analyzed from activation through this operation using the available historical records. The analysis of the battles focusses on the division's tactical conduct of operations.

It concludes that current theory only partially explains the issues involved. Current theory and doctrine have focused primarily on the performance limits of the individual soldier and the conduct of night operations.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT	21. ABSTRACT SECURITY CLASSIFICATION
☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS	Unclassified
22a. NAME OF RESPONSIBLE INDIVIDUAL: MAJ Thomas M. McGinnis	22b. TELEPHONE (Include Area Code): 913-684-2138; 22c. OFFICE SYMBOL: ATZL-SWV

DD Form 1473, JUN 86 — Previous editions are obsolete.

SECURITY CLASSIFICATION OF THIS PAGE

Unclassified

Block 19: However, the experience of the 104th Division shows that many more factors are involved in successful continuous operations. Areas contributing to the success which are addressed in current doctrine include training, soldier welfare and night operations. However, the key to the division's execution of continuous operations was an awareness by the command group that the division would be fighting for extended periods. Consequently, it employed its regiments and battalions in such a way that it could conduct operations around the clock with fresh soldiers at all times. The commmand group employed the division over time as well as over the terrain of the battle.

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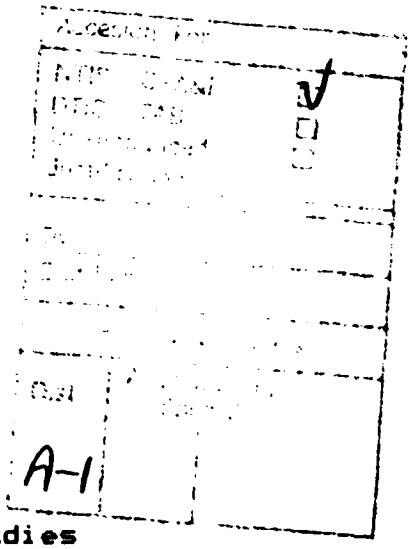

School of Advanced Military Studies
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Fort Leavenworth, Kansas

December, 1987

School of Advanced Military Studies
Monograph Approval

Name of Student: Major Thomas M. McGinnis

Title of Monograph: Continuous Operations: The Time Dimension of Battle

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Accepted this 21st day of March 1988

ABSTRACT

CONTINUOUS OPERATIONS: THE TIME DIMENSION OF BATTLE,
by Major Thomas Michael McGinnis, USA, 52 pages

This paper examines the conduct of continuous operations from the theoretical, historical and doctrinal perspective. To define the problem, it begins with an overview of the recent research in the field. It then closely examines a division which successfully conducted continuous operations during World War II. Finally, it reviews current American and Soviet doctrine on the subject to determine if it addresses the issues raised by the theory and case study. The division studied in the case study is the 104th Infantry Division in its battles from the Roer River to the Rhine River from 23 February to 7 March 1945. The division's performance is analyzed from activation through this operation using the available historical records. The analysis of the battles focuses on the division's tactical conduct of operations.

It concludes that current theory only partially explains the issues involved. Current theory and doctrine have focused primarily on the performance limits of the individual soldier and the conduct of night operations. However, the experience of the 104th Division shows that many more factors are involved in successful continuous operations. Areas contributing to the success which are addressed in current doctrine include training, soldier welfare and night operations. However, the key to the division's execution of continuous operations was an awareness by the command group that the division would be fighting for extended periods. Consequently, it employed its regiments and battalions in such a way that it could conduct operations around the clock with fresh soldiers at all times. The command group employed the division over time as well as over the terrain of the battle.

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SECTION I

INTRODUCTION

> Curiously the American army ... so ran itself during ... [World War II] that a man, once assigned to a fighting unit - which it was American policy to keep continuously in the line for long periods, making up losses by individual replacement - could look forward to a release from danger only through death or wounds. A sensation of 'endlessness' and 'hopelessness' resulted...[1]

The American fighting man has faced such extended periods of combat in the past with little or no hope of respite. While the preceding quote identifies the problem in World War II, the future mid-intensity battlefield holds the promise to again place units and individuals into situations involving extended periods of combat.[2] Consequently, an understanding of how units can effectively conduct such continuous operations is essential to success on a future battlefield.

This paper will examine the conduct of continuous operations from the theoretical, historical and doctrinal perspective. To define the problem, it will begin with an overview of the recent research in the field. With the theoretical framework established, it will closely examine a division which successfully conducted continuous operations during World War II. Finally, it will review

current American and Soviet doctrine on the subject to determine if it addresses the issues raised by the theory and case study.

CURRENT THEORY

To fully understand large unit continuous operations, it is first necessary to examine the research which has already been conducted in this field. Early studies of continuous operations capability were primarily laboratory experiments focusing on individual capabilities. They succeeded in establishing parameters of human performance in a sleep deprived condition. Within 24 hours without sleep, an individual would experience degradation in the performance of routine or monotonous tasks - basic soldier tasks. Within 36 to 48 hours, individuals began to lose cognitive and perceptual skills--leadership requirements.[3] Furthermore, if an individual lost 50% of his normal daily sleep for a period of a week or more, the loss caused a significant reduction in all types of performance.[4]. Typical problems included slowed reaction time, short term memory loss, decreased reasoning ability, errors of omission and erratic performance.[5]

These studies also suggested recovery parameters for various periods of sleep loss. After only 48 hours without sleep, a minimum of eight continuous hours of sleep was required to offset performance loss. Sleep loss for periods of 72 to 96 hours required more than one twelve

hour night of sleep and two to three days of additional rest to fully recover. Furthermore, such acute sleep loss had far greater effects on individuals than a corresponding period with limited amounts of sleep.[6] In examining the effects of sleep loss, it appeared that sleep schedules of four hours of work with two hours of sleep or four hours of work with four hours of rest did not appreciably effect the performance of the individuals studied.[7]

A recent Army analysis conducted by the Combined Arms Combat Developments Activity (CACDA) included a compilation of extensive Army research in the field. This study began by confirming much of the earlier laboratory research on the effects of sleep loss on humans. It concluded that soldiers could continue to perform some functions up to 72 hours without sleep. However, their cognitive skills began to deteriorate after only 18 hours of sustained work. In general, performance declined at a rate of approximately 25 percent per 24 hours of work without sleep.[8]

The CACDA study went beyond individual issues to determine potential small unit weaknesses. By examining the operation of armored battalion task forces at the National Training Center, it drew conclusions about the potential risks to modern battalions that continuous operations present. One of the most crucial findings was that it was absolutely essential for the command group to

pace itself. Pacing enabled the command group to perform its leadership tasks at much greater capacity. A second critical issue identified was the importance of the scout platoon's ability to perform continuous operations to support the commander's reconnaissance requirements.[9] This suggests that factors other than simple sleep deprivation have important impacts on continuous operations.

Another area of continuous operations which has received recent study is the area of night and limited visibility operations. A study for the Command and General Staff College's Combat Studies Institute, Night Combat Operations, examined six historical examples of night operations from the end of World War I through Korea. This analysis concluded that the most important element of successful night operations, especially at the higher levels of the organization, was effective leadership. Units must also gain proficiency and confidence through training. Finally, they enhanced their chances of success by thoroughly planning the operation and conducting extensive reconnaissance to take full advantage of surprise through the concealment offered by darkness.[10]

While numerous works have examined large unit operations, few deal with how the units maintained their effectiveness over extended periods of combat. One recent study dealing with units that failed to do so was a 1987

Masters of Military Art and Science (MMAS) thesis titled "Unit Collapse." This thesis focused on the 28th Infantry Division in the Huertgen Forest during World War II and the 35th Infantry Division in the Meuse-Argonne offensive during World War I. Both divisions engaged in sustained operations with 100% of their divisions committed to the battle. After periods exceeding 72 hours, five of the seven regiments in the divisions studied collapsed -- totally losing combat effectiveness. While many factors contributed to the collapse, soldier and leader exhaustion played a major role.[11] This suggests that leaving all battalions of a division in continual combat for more than three days entails a high risk of catastrophic collapse.

Another MMAS thesis, "Winning Teams: Mobilization Related Correlates of Success in World War II Infantry Divisions," compared twelve World War II infantry divisions to determine reasons for success or failure in early combat. While the study focused primarily on mobilization and training issues, it also examined the units' performance in subsequent combat. It concluded that the most successful divisions regularly alternated periods of combat with periods of rest and training.[12]

Taken together, these studies provide a starting point for an analysis of continuous operations. The initial studies on human factors identify the physical parameters of approximately 48 hours of sustained combat

and 72 hours of continuous operations as the limits of human capabilities to perform effectively. Additionally, several of the studies identify the key roles that leadership, training and reconnaissance played in successful units. Finally, the most recent historical examinations of unit performance suggest that some system of unit rotation may extend and enhance a unit's effectiveness.

THESIS

The following case study will examine these and other potential issues affecting division continuous operations capabilities. It will test the hypothesis that a division can take actions prior to and during combat which will enhance its continuous operations capability. It will do this through the detailed examination of a division which conducted successful continuous operations.

DEFINITIONS

Prior to conducting this analysis, it is necessary to define two key terms. The current United States Army field manual on the subject, FM 22-9, Soldier Performance in Continuous Operations, states that:

> Continuous land combat is an advanced warfare concept ... that [involves operations] ... night, in poor weather and in other low visibility conditions. Combat can and will continue around the clock at the same level of high intensity for extended periods.[1]

The manual also defines a second key concept, sustained operations, as when:

> ...the same soldiers and small units engage in continuous operations with no opportunity for the unit to stand down and very little opportunity for soldiers to catch more than a few minutes of sleep. 'Continuous operations' do not necessarily involve 'sustained operations' if sufficient units or individuals within units are available to allow everyone to get adequate rest.[14]

Such operations necessarily involve combat at night and during periods of limited visibility. Consequently, any study of division level continuous operations must include an examination of night and limited visibility operations. Operations at night are self-explanatory and will not be further defined.

METHODOLOGY

This monograph used the case study approach to determine those issues which were key to a division which conducted successful continuous operations. The division chosen for study was the 104th Infantry Division which fought in the European Theater of Operations from October 1944, to April 1945. During this time, the division was in almost constant contact with the Germans. However, to limit the scope of the study, this paper will focus in detail on its thirteen days of continuous combat from 23 February 1945 to 6 March 1945. During this period, the division attacked from the Roer River to the Rhine River as part of a general Allied offensive drive. To establish the preconditions for this campaign, the division's mobilization and early combat background will also be reviewed.

The 104th Division was chosen for several reasons. First, it had a reputation during World War II as one of the best night fighting divisions in the American Army. As such, the division met the criterion of conducting operations around-the-clock, in all conditions. There was sufficient material available on the division to ascertain detailed information concerning the actions of the battalions and sometimes lower echelons. Finally, the division was engaged in offensive action according to its own plans rather than in response to enemy actions.

A single division was chosen in order to study the unit in depth within the context that it fought. To focus the examination of the 104th Division, the analysis was directed at leadership, doctrinal, training and tactical employment issues that might have enhanced the division's continuous operations capability. While this necessarily limits the breadth of the study, the scope of this monograph does not permit it to be the final definitive answer on continuous operations. Rather, it is intended to suggest areas that may be of importance to a unit destined to engage in such operations.

SECTION II

CASE STUDY

CONTINUOUS OPERATIONS OF THE 104TH DIVISION

By early February 1945, the Allies had defeated the German counteroffensive in the Ardennes and were preparing to continue their drive into Germany. Major General J. Lawton Collins' VII Corps was given the mission to protect the right flank of 9th Army as it conducted the main attack across the Roer River. On 23 February the corps began its attack with its two infantry divisions leading the assault and reached the Rhine River by 6 March.[15] Throughout this campaign, the 104th Division played a critical role. After the war, the VII Corps commander commended the division in a letter by writing:

> It was during this campaign across the Inde, the Roer and the Erft in February-March, 1945, that the 104th Division perfected its technique of night operations which made it one of the outstanding night-fighting divisions in the army."[16]

This section will examine these battles and suggest reasons for the success of the 104th Division in its thirteen days of continuous operations. First, it will review the division's preparation for deployment and initial combat. Next, it will describe the setting for the campaign and its conduct by the division. Finally, it will analyze the causes for the division's success.

ORGANIZATION, TRAINING AND EXPERIENCE

The 104th Infantry Division, the Timberwolf Division, was activated in Oregon in September 1942, as a triangular infantry division.[17] The primary combat elements of this type of division were three infantry regiments each containing three infantry battalions. The regiments assigned to the 104th Division were the 413th, 414th and 415th Infantry Regiments. They each were authorized 3118 soldiers of whom 2235 were either riflemen or heavy weapons crewmen. A division artillery of four battalions, an engineer battalion and division support troops brought the authorized division strength to 14,253.[19] When first activated, the 104th Division had an initial complement of only 31 officers and eight enlisted men. However, it quickly filled its authorized positions with over 850 officers and 16,000 enlisted men by January 1943.[18]

Once organized, the division began a period of rigorous individual and small unit training in January, 1943. The training program was designed to weed out those who were overage or otherwise not in good physical condition. The intensity of this training contributed to the reduction of the division strength to only 10,715 enlisted men by the time the division conducted its first division level maneuvers on 7 August 1943.[20] Following this initial exercise, the Timberwolves participated in a

series of division and corps level exercises until February 1944. Although the exercises were conducted on a large scale with standard tactical missions to both attack and defend, the Timberwolves also stressed individual soldier skills. Each exercise forced the soldier to move frequently and dig-in wherever he went.[21]

During this period, Major General Terry de la Mesa Allen, the veteran commander of the 1st Infantry Division, assumed command of the 104th Division on 15 October 1943. His leadership presence was felt almost immediately as he began disseminating his philosophy on leadership, combat techniques, discipline, physical toughness and unit integrity. He quickly set goals for the division in the combat areas he believed critically important. These areas included night operations, weapons proficiency, reconnaissance, maneuver, combat exercise and battle drill. Allen's tough directed training quickly produced results as evidenced by the division's successful night attack exercise against a fortified mountain pass at Palen Pass, California on 18 February 1944.[22]

In March 1944, the division redeployed to Camp Carson, Colorado where it received a large number of fillers from the Armed Services Training Program and the Air Corps. To insure these new soldiers met the division training standard, Allen established a provisional training regiment which conducted a five week training program. At

the unit level, the division continued to emphasize night attacks, weapons training and battle drill. This intense program enabled the division to pass the XVI Corps certification for deployment in June 1944 -- only eighteen months after its activation. With this official recognition of its preparedness, the division was notified for overseas deployment on 12 July 1944 and departed from New York harbor on 25 August.[23]

The Timberwolves arrived in Normandy, France on 6 September 1944, occupied local bivouac areas until 20 October and subsequently moved into forward assembly areas in Vilvorde and Mechelin, Belgium. Upon arrival in Belgium, the division prepared to support the I British Corps of the First Canadian Army in the army's offensive in northeast Belgium and southeast Holland.[24] On 23 October 1944, the 104th Division entered the front lines for the first time and began an attack in support of the British that would last for the next sixteen days.[25] During this baptism under fire, the Timberwolves conducted continuous operations which included several night attacks and a deliberate night river crossing operation.[26]

On 7 November 1944, the division moved to support VII United States Corps in the vicinity of Aachen, Germany. By 16 November, after having relieved the 1st Infantry Division, the 104th Division commenced its attack toward the Roer River as part of the VII Corps assault.

During the next 28 days, the division engaged in a series of night and day attacks. The Timberwolves finally reached the west bank of the Roer River on 13 December after an advance of only 12 miles.[27]

Upon arrival at the river, the division cleared a 5000 yard wide sector along the west bank of the Roer. On 16 December, as the Timberwolves began to make plans to cross the river, the Germans launched their counteroffensive in the Ardennes. This counteroffensive forced the division to assume an economy of force mission which, over the next four days, extended the division's defensive sector to approximately 16,000 yards.[28] The division maintained these positions until 7 February 1945, with five battalions guarding the river line and four in reserve. During this period, the division constructed defenses in depth and conducted an aggressive reconnaissance campaign which included 63 patrols across the Roer in 70 days. These patrols provided excellent information concerning the extent of enemy defensive preparations including the location of wire obstacles, minefields and entrenchments.[29] After the Allied elimination of the Ardennes salient, this information proved particularly valuable when the 104th Division rejoined the Allied offensive on 23 February.

ATTACK FROM THE ROER RIVER TO THE RHINE RIVER 23 FEBRUARY TO 7 MARCH 1945

To support the Ninth Army's main attack, the VII Corps of the First Army had the mission to protect the Ninth Army's southern flank. Thus, on 5 February 1945, the VII Corps took responsibility for the Aachen to Cologne corridor. To conduct this operation the major, original, maneuver elements of the VII Corps consisted of the 104th Division, the 8th Division, and the 3d Armored Division.[30]

The enemy facing the VII Corps and 104th Division had been greatly weakened by the January fighting in the Ardennes. The major German units belonged to the LVIII Panzer Corps and consisted of two Volksgrenadier divisions. Eventually, the Germans reinforced the sector with a Panzer division on 25 February with an assault gun brigade and a Panzer Grenadier division joining it on 26 February. The Germans also provided an estimated ten to twelve battalions of artillery fire support for their committed divisions.[31]

To strengthen these units' defensive positions, the Germans constructed extensive field fortifications in three defensive lines. They further enhanced this system by integrating numerous villages into the defense as mutually supporting strongpoints. The first defensive line which the Germans strengthened with minefields and barbed wire

obstacles ran along the Roer River . The second line of obstacles lay six miles to the east and was tied into villages. Finally, about thirteen miles east of the Roer lay the last obstacle line built along the Erft Canal. This last line was particularly treacherous because of a 1000 yard wide boggy valley floor and dominating hills on the east bank. The Rhine River, the VII Corps final objective line, lay another twelve miles farther east with the fortified city of Cologne barring the way.[32]

To conduct the attack up the Aachen-Cologne corridor, the VII Corps planned a three phase operation. Phase I called for the the 104th and 8th Divisions to seize bridgeheads across the Roer. Once these divisions established the VII Corps bridgehead, the 3d Armored Division would pass through the infantry to exploit to the Erft Canal (Map 1, page 41). At the Erft, the infantry would again assault across the water and attack through the built up area of Cologne to the banks of the Rhine (Map 2, page 42).[33]

The 104th Division drew the mission to attack just north of the city of Dueren and advance east to seize the dominating terrain overlooking the Roer. To support this operation, the division had three additional artillery battalions, a tank battalion, a tank destroyer battalion, an antiaircraft battalion and an additional engineer battalion attached.[34] The division commenced its attack

at 0245 hours on 23 February 1945 with a 45 minute artillery preparation. Once this attack started, the division's operations developed into thirteen days of continuous offensive operations against stunned German resistance.

Phase I, the seizure of the bridgehead, lasted three days as the Timberwolves pushed east to provide maneuver room for 3d Armored Division. The 104th Division conducted the initial assault with eight companies from the 413th and 415th Regiments. By the end of the day, each regiment had two battalions across the river and advanced near or beyond the dominating terrain east of Dueren (Phase Line A). The 414th Regiment remained in division reserve with its battalions closing on forward assembly areas west of the Roer.[88]

The division continued its attack on 24 February, with the 413th and 415th Regiments launching night attacks to secure key villages. The 413th Regiment held positions along Phase Line A with two battalions, while its third battalion attacked in the early morning to seize the Dueren railroad marshalling yards. These yards were secure by 2100 hours. The 415th Regiment attacked at 0300 hours with two battalions to seize Arnoldsweiler (still contested at midnight, 24-25 February) and Oberzier (secured by 1700 hours). The 414th Regiment remained in reserve with one battalion across the Roer and the remainder moving forward.[89]

The Timberwolves conducted their third consecutive night of attacks on 25 February as one battalion of the 415th Regiment attacked at 0001 hours to seize the town of Ellen. A second attacking battalion continued combat operations through the night and into the next day in methodical street fighting to clear the town of Arnoldsweiler. The 413th Regiment attacked with one battalion at 0300 hours to seize critical high ground. This regiment continued its operations that evening when a second battalion launched an attack at 2100 hours on another German strongpoint of Morschenich. The division committed its reserve when the 414th Regiment attacked at 0300 hours to secure Merzenich. The 414th Regiment continued attacking with a second battalion at 2100 hours that evening.[37]

The 414th Regiment moved from its mission as the division reserve and spearheaded the division's main attack on 26 February. Its 2d Battalion continued its night attack of 25 February with the support of a company of tanks and platoon of tank destroyers so that by early 26 February it had seized its objective of Golzheim. The 413th Regiment continued its attack with one battalion and secured Morschenich by 0545 hours. In the 415th Regiment's sector, the 4th Cavalry Group passed through the regiment so that the 415th Regiment assumed the reserve mission. At 0600 hours 26 February, the 3d Armored Division began

the second phase of the operation when it passed through the 104th Division along the corps Phase Line B.[38]

During Phase II, which lasted two days, 27 and 28 February, the division followed in support of 3d Armored Division with the mission to eliminate any bypassed pockets of German resistance. The 104th Division did this by leapfrogging the battalions of the 413th and 414th Regiments forward while keeping the 415th Regiment in reserve. By 28 February the Timberwolves had closed to the west bank of the Erft Canal and were sending patrols across the canal in preparation for an attack the next night.[39]

The 104th Division began Phase III of the operation at 0300 hours on 1 March with another night river crossing. The 2d Battalion, 413th Regiment led the assault in its sector and secured its initial objectives by 0410 hours. Both the 1st and 2d Battalions of the 414th Regiment crossed the river in their sector and secured their objectives by 1300 hours. The 415th Regiment remained in reserve resting its soldiers, repairing its equipment and planning for future operations. During the next day, the Timberwolves consolidated their positions and prepared for a continuation of the attack.[40]

After its one day halt, the division committed the 415th Regiment in a two battalion attack on 3 March. The regiment succeeded in advancing three to four miles to positions overlooking Cologne. The 414th Regiment also

attacked with one battalion to seize critical high ground east of the city of Horrem. After bitter fighting that lasted over twelve hours, its 1st Battalion secured the high ground as a line of departure for a midnight attack by the 3d Battalion. The 413th Regiment conducted a night move commencing at 2030 hours into forward assembly areas.[41]

The following day, 4 March, the division continued its attack along the approaches to Cologne with each regiment having elements conducting attacks. The 1st Battalion, 413th Regiment attacked at 1100 hours and seized the town of Sinthern by 1800 hours. The 1st and 2d Battalions, 414th Regiment launched night attacks and secured their objectives by 0400 and 0930 hours respectively. The 3d Battalion, 414th Regiment passed through the 1st Battalion at midnight on 3 March and attacked against heavy resistance throughout the day to seize the towns of Buschboll and Wieden by 2330 hours that evening. In the 415th Regiment, the 1st Battalion attacked toward Lovenich at 1200 hours. Using smoke to cover its advance against heavy resistance, the battalion continued its attack until it secured its objective at 2300 hours. The 3d Battalion, 415th Regiment attacked in the early morning so that it was able to seize two key factories in the outskirts of Cologne by 0730 hours.[42]

From the key positions seized in the actions of the previous day, the 104th Division attacked the city of Cologne on 5 March. Initial units from the 414th and 415th Regiments entered the city at 0923 hours. By 2100 hours that night four battalions of these regiments had penetrated the city to a distance of 4000 yards. The two regiments continued to advance through the streets on 6 March with the aid of a battalion from the 413th Regiment. That night the units sent patrols forward to the Rhine River. Continuing the attack on 7 March, all divisional units had closed on the Rhine River by 1229 hours, thus securing the city of Cologne and ending this campaign.[43]

The Timberwolves' tactics of unremitting pressure proved particularly effective throughout this operation. In statistical terms, the 104th Division advanced approximately 25 miles in thirteen days while capturing 97 towns and 4899 prisoners. The price paid for this advance was 377 soldiers killed and 1121 wounded.[44] Additionally, the division conducted two successful night river crossings in the face of prepared defenses and fought fourteen battalion level night actions. There was only one day during this thirteen day operation in which the division was not attacking.

This constant pressure had a devastating effect on the German opposition. A German division commander commented that:

> Contrary to their former customary manner of fighting, ... [the Americans] continued their fighting day and night. As the enemy could always bring new infantry into the conflict while on our side the same soldiers had to continue the fighting, the overexertion of our own infantry was extreme.[45]

An excellent example of the results achieved by such constant pressure occurred the night of 25-26 February as the 1st Battalion, 413th Regiment attacked the German held strongpoint of Morschenich. As a result of this surprise attack at 2100 hours, the Americans captured a German battalion staff and 200 additional prisoners. These personnel were evidently unaware of the proximity of the Americans and were still preparing the village for a daylight defense the following day.[46]

FACTORS CONTRIBUTING TO SUCCESSFUL CONTINUOUS OPERATIONS

The successes of the 104th Infantry Division related above were the results of a series of division level actions that enhanced the division's continuous operations capabilities. Perhaps the most important of these was the manner in which the division commander tactically employed his division. His entire campaign showed an acute awareness of the potential and limitation of a division engaged in continuous operations.

Major General Allen fought his division over time as well as over the terrain. Specifically, he employed its regiments and battalions in such a manner that he always had fresh troops to conduct his attacks. Consequently, the

division as a whole never entered sustained operations and rarely did any of the battalions get pushed to the limits of their endurance. An analysis of the following table shows how Allen rotated his battalions through combat to maintain constant pressure on the enemy as well as preserve his own combat power.

TABLE 1

BATTALION COMBAT DAYS

Unit	Date													Total Days in Contact
	February						March							
	23	24	25	26	27	28	1	2	3	4	5	6	7	
1/413	A	H	A	A	H	M	A	R	M	M	R	M	M	6
2/413	R	A	A	M	M	A	A	H	H	M	M	R	R	6
3/413	A	H	H	H	A	R	R	R	M	A	R	M	A	7
1/414	M	M	A	M	R	M	A	H	A	M	A	A	A	7
2/414	R	M	A	A	A	H	A	H	A	A	M	A	R	9
3/414	R	M	R	M	R	H	M	R	M	A	A	A	A	5
1/415	A	A	A	M	R	M	R	M	M	A	A	A	A	7
2/415	A	A	H	R	M	R	R	M	A	H	A	A	A	8
3/415	R	R	A	R	R	R	R	M	A	A	A	R	R	4
Total Units in Contact	4	5	8	3	3	3	4	3	5	6	5	5	5	59

Legend A - Attack H - Holding in contact
M - Moving, not in contact R - Reserve

(See Note 47 for an explanation of the manner in which the data was compiled.)

The above table illustrates that the division as a whole fought for thirteen consecutive days. However, the individual battalions averaged only 6.5 days attacking or holding in contact with the enemy. Furthermore, the division averaged only 4.5 battalions out of nine in contact on any given day. These averages indicate that the fighting was evenly spread throughout the division.

Looking beyond these averages provides even more insights into how the division distributed the fighting burden. In examining units that conducted consecutive days of attacks, the table indicates that the division recognized a limit of approximately three days to a unit's ability to continue to attack. Only two battalions, the 3d Battalion, 414th Regiment and the 1st Battalion, 415th Regiment attacked for more than three consecutive days. However, the fourth day of attack was the last day of the campaign when the division closed on the Rhine against light resistance.

There are five additional cases where battalions attacked for three consecutive days. Following this type of employment, the division put two of the battalions into reserve and one battalion in a follow in support role while two battalions reached the Rhine. Finally, the division had three battalions that attacked for two days then held their positions for a third day. In these cases, two of the battalions went into reserve while the third assumed a follow in support mission.

Another aspect of the manner in which the division conducted this attack was the tempo of commitment of the division reserve. There were only three days (25 February, 3-4 March) out of thirteen when the division did not have a specifically designated regimental-size reserve under its control. However, on two of those days, 3 and 4 March, the division had one regiment out of contact moving into position to support the operation as a future reserve.

In the case where the division committed its reserve, the reserve's mission was to secure a critical phase line immediately prior to a change in the division's mission. That day, 25 February, the division committed its reserve regiment to complete the seizure of the line of departure for the passage and exploitation of the 3d Armored Division. The following day the division reverted to a follow and support role behind the 3d Armored Division. In this instance, on 25 February, the 104th Division had eight of its nine infantry battalions committed. Six of those were attacking. This was the highest number of battalions committed at one time during the thirteen day operation. However, the division followed this peak immediately with a three day period when only three battalions were in contact -- the lowest number for the entire campaign.

Furthermore, the division rotated the assignment of the reserve mission so that each regiment had an extended period out of contact with the enemy. The initial unit, the 414th Regiment, was in reserve for the first two days of the operation. However, these two days followed a two month quiet period where it had little enemy contact. The second unit, the 415th Regiment spent five days in reserve from 25 February to 2 March. During this period it was sent to the rear for rest and planning. The last unit in reserve was the 413th Regiment. This regiment spent the last three days of the campaign, 5-7 March in reserve with 3 and 4 March moving into position. Consequently, each regimental size unit had periods of rest despite heavy fighting for the division the entire thirteen days.

While this rotation of units through combat may have eased the strain on the battalions, it allowed the division to maintain constant pressure on the enemy by exploiting one of the Timberwolves' strengths -- night attacks. The division conducted two types of night attacks. The first started in the early morning, generally 0300 hours, with the intention of seizing key positions for the continuation of daylight operations. The two most noteworthy of these were the night river crossing operations of the Roer and the Erft. However, their were also eight battalion-level attacks against enemy held cities. In six of these attacks, the units successfully completed their attacks and

eliminated enemy resistance by noon. The division halted only one attack prior to seizing its objective because of stronger than expected enemy resistance.

The second type of attack was a continuation of operations after nightfall if the division had not seized the objective during daylight hours. The Timberwolves conducted six battalion level attacks of this nature during the operation. The most difficult of these was the 1st Battalion, 415th Regiment's attack against Arnoldsweiler which lasted from 0300 hours, 24 February until 1050 hours 25 February -- almost 31 hours.[48] The most successful was the 1st Battalion, 413th Regiment's attack at 2100 hours 25 February into Morschenich. This action captured a battalion staff and 200 prisoners who did not expect the attack until the next day.

The third tactical activity that was essential to the success of these continuous operations with the supporting night attacks was effective and continual reconnaissance. Prior to even launching the first crossing of the Roer, the division conducted 63 patrols over the Roer to determine locations of the enemy's obstacles and fortifications. Once the operation started, the battalions continued to aggressively patrol. Patrols from the 415th Regiment advanced ahead of the unit through Cologne to the Rhine.[49] Those of the 413th Regiment moved forward to establish the status of the pursuing 3d Armored Division on

25 February.[80] Furthermore, the 3d Battalion, 414th Regiment placed so much emphasis on reconnaissance that it formed a special reconnaissance element of some of the best soldiers in the battalion. This unit eventually became a model for the other units in the division.[81]

Tactical acumen, however, was not the only reason the Timberwolves achieved such success in their continuous operations. The division prepared for its future combat from the day it began training. In a massively mobilized citizen army, the division's leaders recognized a need to supplement available military literature with understandable, easy-to-use doctrinal writings. Consequently, they published three pocket-size training pamphlets on leadership, offensive combat, and night attacks. These were eventually disseminated to many other units in the European Theater of Operations.[82] More importantly, the 104th Division closely followed the basic principles delineated in the pamphlets. This significantly contributed to their successful execution of continuous operations.

The first of these guides, Combat Leadership, was a compilation of Major General Terry Allen's command philosophy. While Allen enunciated his beliefs shortly after his arrival in the division, the wide dissemination of this pamphlet insured his ideas were readily available to the entire division, even after combat replacements

began arriving. The pamphlet emphasized that the leader must demonstrate the ability to "lead and direct his troops decisively in battle."[83] This included the necessity to display sound judgement, imagination and bold initiative. Another key issue was to insure that leaders and soldiers were physically fit and able to withstand the physical stress of combat. The leader also needed to take care of the health and welfare of his men -- to include training and welcoming all replacements.[84] The pamphlet stressed the importance of the unit undergoing realistic training which emphasized combat technique and team work.[85] Taken together, these actions would develop "A well-disciplined combat unit ... recognized by its alert, confident bearing and by its efficient functioning in the field."[86] This was exactly the type of unit that the 104th Division became.

A second training pamphlet published by the Timberwolves was the division's Directive for Offensive Combat. This brief pamphlet amplified a division motto of "FIND 'EM, FIX 'EM and FIGHT 'EM."[87] It began with an emphasis on all types of reconnaissance and stressed the critical roles of the intelligence sections and scouts. The pamphlet briefly explained the characteristics and employment methods of each of the major direct and indirect fire systems in the division. It emphasized the importance of integrating fire and maneuver to concentrate friendly

strength against enemy weak points.[59] In executing the main attack "Units ... must be disposed in great depth [emphasis in original], to assure sufficient strength for a continuous, deep advance."[60] Finally, the pamphlet identified the importance of proficiency in night combat operations.[61] This overview of the pamphlet illustrates that the division was well aware of, and was preparing to face, such difficult tactical problems as night and continuous operations.

To add emphasis to the role that night operations played in the conduct of the division's continuous operations, the division published a third training pamphlet, Night Attacks. This pamphlet was extremely specific about the conduct of such operations. It delineated the reasons for conducting them and included a detailed checklist on the unit actions.[62] The pamphlet placed particular emphasis on conducting daylight and night reconnaissance as well as preparing a simple, detailed plan.[63] It also stated that night attacks should normally be conducted at battalion and lower level. Regimental and larger formations should rarely attack as units except in special terrain-dependent situations or "when troops have been specially trained for such operations."[64] Again, the division executed its doctrine as written. Its night attacks were normally conducted at the battalion level with the largest, the Roer crossing, conducted by four battalions.

To implement these training pamphlets, the Timberwolf Division conducted a rigorous training program. As early as the spring of 1943, the division conducted night movements of smaller units and night navigation with compasses and emphasized night discipline.[64] Training stressed physical fitness and operations in all weather conditions. By May 1943, 91.6 percent of the division passed the physical fitness test.[65]. The division continued its training throughout the next year with numerous division and corps-level maneuvers which included extended field training exercises with night operations.

One of the special features of the predeployment training was the emphasis placed on reconnaissance operations and scout training. To enhance the division's capabilities, it held a three day competition to choose its best soldiers as scouts. It selected 103 soldiers out of 317 competitors who had already been picked from the toughest, most physically fit men in the division.[66]

The 104th Division continued its training program after it entered combat. At the unit level, prior to the Roer River assault, it conducted extensive training in river crossing operations with the supporting engineers.[67] To train individuals, the division established the "Timberwolf Reinforcement Training Center." The center conducted a two week course taught by division veterans to train new replacement soldiers.[68]

This center was instrumental in providing the regiments with individual replacements who could be quickly integrated into the units.

The division sustained the fighting power of its units through a concerted effort by the entire chain of command to take care of the welfare of the soldiers. Commanders conducted continual inspections focusing on basic soldier issues of rest, food and cleanliness. Among the areas checked in February were facilities for ample, warm, clean sleeping quarters; warming areas for personnel on patrol or guard duty; and sufficient amounts of clean, serviceable, replacement clothing. Of particular importance was the sanitary preparation of food in adequate quantities.[69]

Furthermore, the division maximized the impact on soldier welfare of breaks in combat by anticipating and preparing for them. During this campaign, the division foresaw a short pause in combat in March after the capture of Cologne. Consequently, it prepared a support system to address soldier needs after continuous combat. It directed that each soldier receive at least one bath and one change of clothes while in Cologne. To support this requirement the division quartermaster augmented corps shower points with improvised division facilities. To enforce these sanitation standards, commanders inspected their commands at least once daily.[70] These soldier welfare issues are

examples of the types of concerns that Major General Allen stressed so strongly in his training pamphlet on Combat Leadership. They proved to be essential ingredients in preparing the Timberwolves to sustain the rigors of continuous combat. By attempting to ameliorate the soldiers' physical hardships during periods of reduced contact, the leadership enhanced the soldiers' combat potential when committed to battle.

Finally, the division could not have conducted its continuous operations without adequate logistical support. Prior to beginning the battle in February, logistics personnel established forward supply dumps to support the river crossing. Once the attack began, mobile logistics teams provided maintenance, recovery and supply services "immediately following the combat elements."[71] Furthermore, the division established strict traffic control measures to prevent potential bottlenecks at bridges and on major highways.[72] Upon capturing Cologne, support personnel planned for and effectively used the temporary lull in combat to perform desperately required maintenance.[73] Such logistics actions were critical in allowing the division to sustain its soldiers throughout its thirteen days of combat.

From the preceding, it is apparent that 104th Division addressed a number of issues in the preparation for and conduct of its continuous operations. Most

importantly, the division tactically employed its units in such a manner that it always had fresh battalions for combat. However, the division went beyond this by understanding the nature of continuous operations and thoroughly preparing for them. It did this through the conduct of demanding, realistic, training; supplementing doctrinal writings with divisional training pamphlets; enhancing soldier welfare and anticipating logistics requirements.

SECTION III

CURRENT DOCTRINE

Current military doctrine on continuous operations addresses several of the issues identified in the case study of the 104th Division. FM 100-5, Operations, establishes the environment for future mid- to high-intensity battlefield as "likely to be chaotic, intense, and highly destructive."[74] Future combat will be characterized by nonlinear operations with forces employing highly lethal systems controlled by accurate sensors and sophisticated communications. Combat could occur in almost any terrain with the airspace always being an important dimension. FM 100-5 stresses the importance of leaders, soldiers, doctrine and equipment.[75] In emphasizing the soldiers' role, it states:

> Prolonged demands of combat cause efficiency to drop even when physical losses are not great. Well trained, physically fit soldiers in cohesive units retain the qualities of tenacity and aggressiveness longer than those which are not.
>
> Good leadership makes the vital difference in the staying power and effectiveness of units. ... Staffs and commanders need to take this variance in performance into account in their planning by matching units to missions, [and] rotating units through difficult tasks to permit recuperation to the extent possible...[76]

Finally, it states that "men and units are more likely to fail catastrophically than gradually."[77]

In making these observations, however, FM 100-5 buries them in the last section of the second chapter under the heading of "UNDERSTAND THE EFFECT OF BATTLE ON SOLDIERS, UNITS AND LEADERS".[78] In this manner, the manual almost implies that those effects are separate from the conduct of operations. Consequently, subordinate manuals and field circulars follow this same pattern of almost ignoring operations over time.

Beneath this capstone operations manual, the Army is in the process of publishing a series of supporting manuals and field circulars. The Army's "71 series" on combat unit operations accurately follows the lead of FM 100-5 in discussing the nature of future conflict. However, they almost totally ignore the aspect of continuous operations. The principal relevant passages provide information on the conduct of night and limited visibility operations. A second set of manuals, the "90 series," deals with special

environments such as deserts or cities in which American soldiers might fight. These manuals also refer to combat in night or during periods of limited visibility as well as the peculiar demands which the terrain places on the soldier. However, they also fail to address combat over time or continuous operations.[79]

The subject of continuous operations is left to a manual in the "22 series," FM 22-9, Soldier Performance in Continuous Operations. As the title suggests, the manual focuses on the individual soldier and his functioning in continuous operations. It begins by establishing the nature of the future combat in which soldiers could fight. It then addresses strategies for conserving soldier resources and techniques for maintaining soldier performance.

Continuous Operations follows other doctrinal publications in predicting the nature of future conflict as being fought in a physical environment which is confusing, stressful and lethal to its participants. Within this environment it stresses the importance of preserving the human resources of the command -- soldiers. It then identifies areas of soldier performance most affected by sleep loss with emphasis on command functions.[80]

The remainder of FM 22-9 stresses the peacetime areas which leaders can address to overcome potential degradation of capabilities due to continuous combat

operations. Leaders must anticipate demands, develop the confidence of their subordinates, communicate the nature of the situation to them and serve as role models. They must establish realistic training programs which cross train and "overtrain" soldiers to the highest standards. Leaders should develop "coping skills" in their soldiers by teaching them to overcome stress and strenuous physical exertion. They can further maximize their soldier performance by building cohesive units and using their soldiers wisely.[21]

Continuous Operations also addresses specific measures which the commander can take to enhance his soldiers performance when actually engaged in continuous operations. He can rotate or share tasks among his soldiers and increase the amount of "cross-checking." He can learn to recognize the signs of stress and try to reduce it -- particularly through effective balancing of requirements for additional work and sleep. FM 22-9 also mentions that senior leaders normally keep some type of reserve to deal with crises or relieve committed units.[22]

This brief review of United States doctrine on the subject of continuous operations shows both strengths and weakness. The doctrine covers the requirements for the small unit leader and his soldiers extremely well. It also briefly addresses the conduct of night operations. However, beyond a recognition that continuous operations

place stress on soldiers, the doctrine has almost no guidance on how to fight units over time as well as over terrain. This is in marked contrast to the Soviet doctrine which views all operations primarily as a function of time.

SOVIET DOCTRINE

Soviet doctrine stresses the concept of echelons of forces applying constant pressure to cause their opponents' will to fight to collapse. Soviet planners aim for their units to execute a continuous series of attacks sustained by combat service support elements.[3] These attacks attempt to maintain a rapid tempo of advance. This tempo is characterized by speed and flexibility as well as leadership attempts to create opportunities for exploitation through aggressive action.[4]

To support this theoretical model, the Soviets provide their commanders with practical guidance on how to accomplish the stated goals. The primary tactical means of achieving continuous pressure is the use of echelons of forces. The first echelon conducts the main attack with the majority of combat power. Its missions are to penetrate the forward defense, continue the attack or exploit success. Soviet commanders then deploy a second echelon of forces with the mission to exploit success, destroy bypassed forces or replace depleted first echelon units. Finally, the commander maintains a combined arms reserve which, unlike a second echelon unit, does not have

a preassigned mission. These reserves may be committed when and where the Soviet commander thinks he can achieve either deeper penetration or greater success.[85]

This system of echelonment allows the entire Soviet division to cycle through the attack in 36 to 48 hours and then pass the attack to another division[86] An American combat battalion could expect to face at least three fresh Soviet battalions in a 72 hour period.[87] If American units are to avoid collapse from fatigue in the face of this pressure, they must come to grips with the nature of continuous operations.

SECTION IV

CONCLUSIONS

Effective continuous operations are not something new to the United States Army. During World War II, the 104th Infantry Division showed that American units could conduct around-the-clock combat operations for extended periods of time with devastating results for the enemy. However, for the division to be successful required an understanding of the nature of the conflict in which it would engage. Understanding this, the division conducted a training program that stressed the physical demands placed upon soldiers and units. It also prepared its soldiers to execute missions at night. Once committed, the division recognized the absolute requirement to preserve the combat

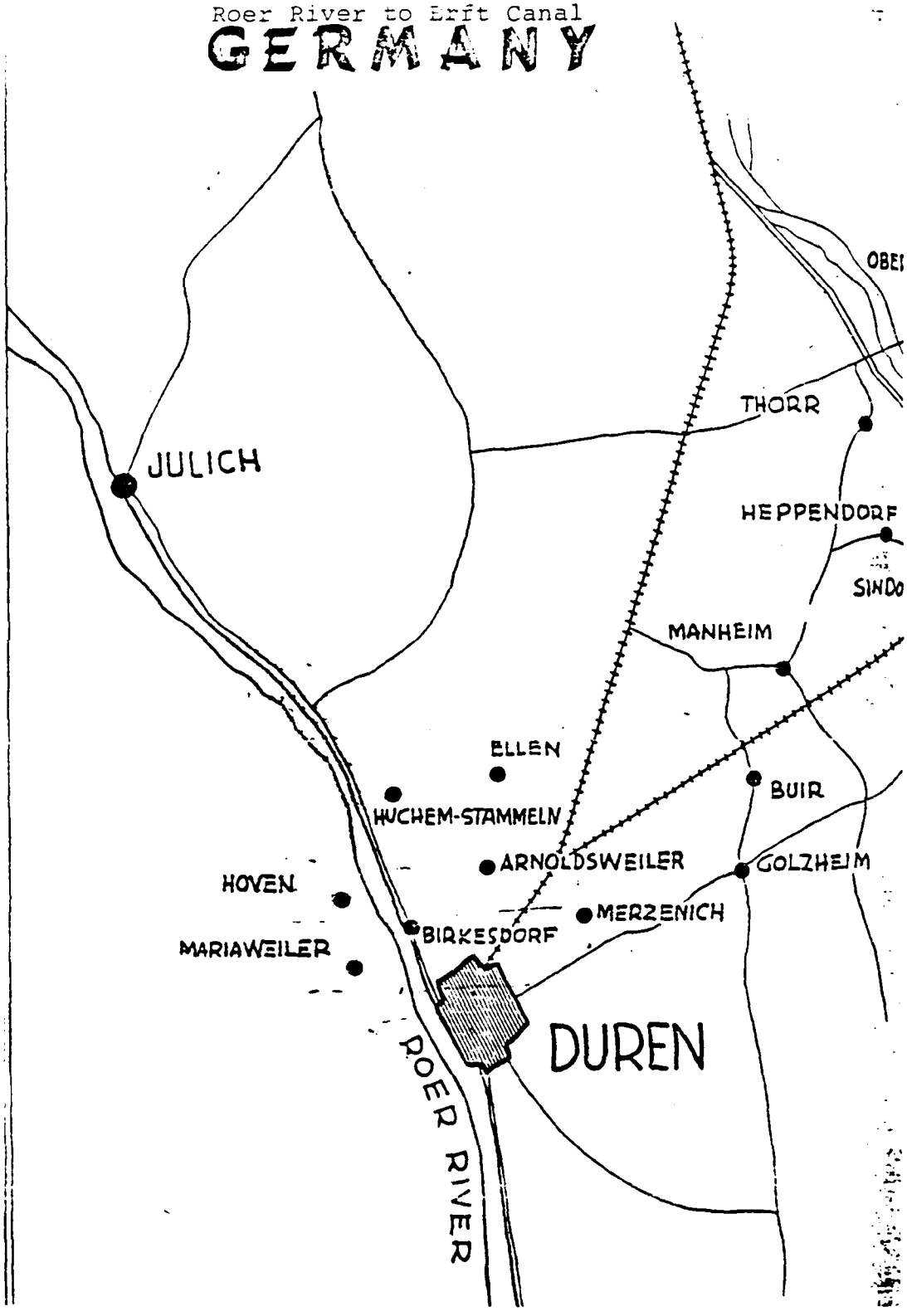
power of its soldiers. Leaders provided opportunities for rest and tried to insure that the basic needs of the soldiers were met. These are the areas that current United States Army doctrine recognizes as the key issues for successful continuous operations.

However, they are only the beginning of the reason for the Timberwolves' success. The key to this division's superb performance was a recognition by the division leadership that the division was fighting over time as well as over terrain. This understanding was readily apparent in the tactical employment of the battalions. Units were continually rotated from attack to holding terrain to reserve. This cycle of missions was almost always complete within three days. Reserves were used primarily to provide soldiers a respite from combat more than to influence the battle; thus allowing the division to employ fresh soldiers in day and night attacks.

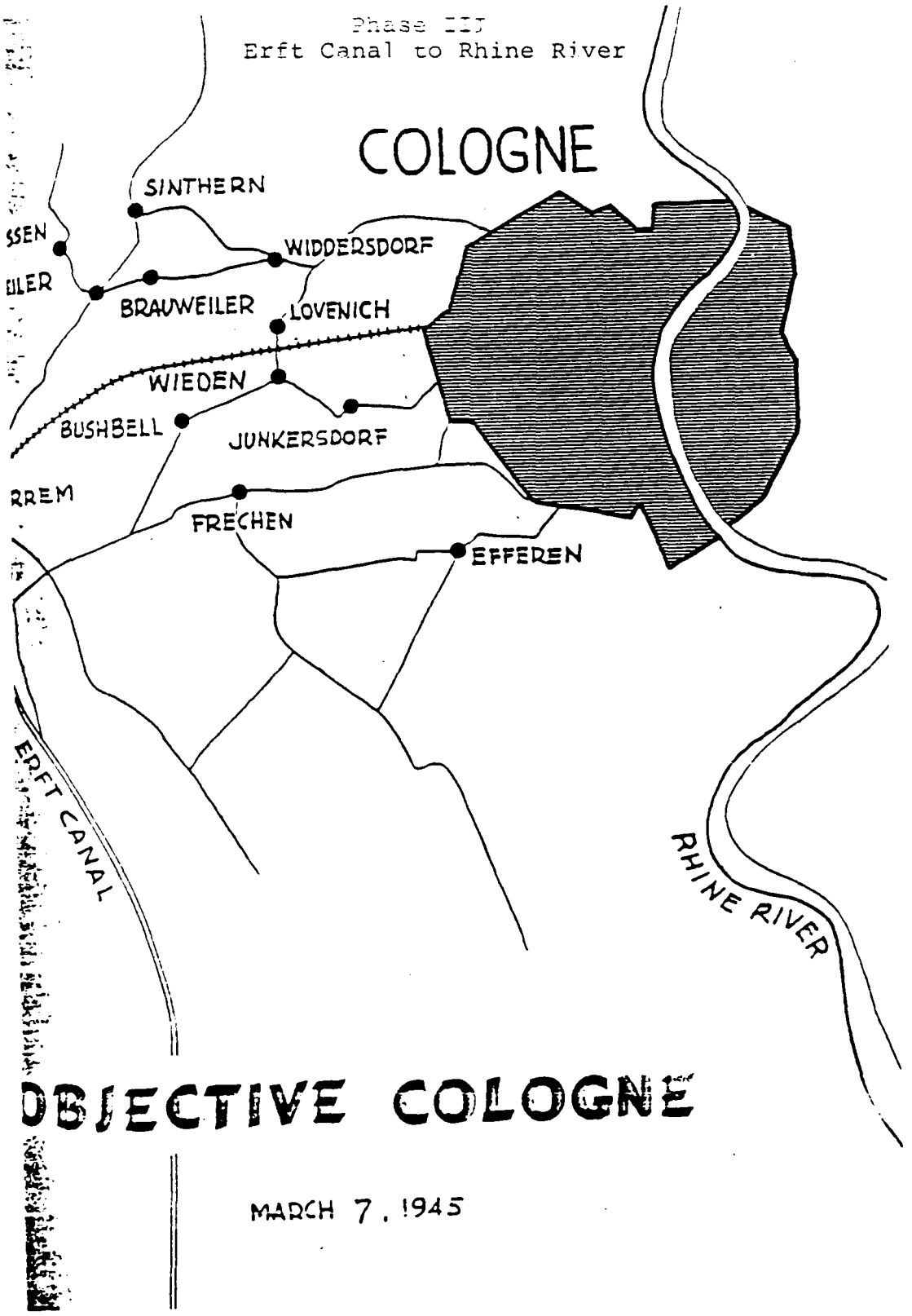
American doctrine is woefully inadequate in its treatment of units fighting over time. This is in marked contrast to the Soviet system which expresses all operations as a function of time. While such an emphasis may be excessive, it does recognize that units will fight more than one engagement or battle during an operation. The 104th Division recognized this fact, prepared for it doctrinally as well as in training and conducted its operations with the next battle always under consideration.

As the case study shows, successful continuous operations involve more than just operations at night, with individual soldiers reaching the limits of their endurance. Unless American units collapse during their first battle, they will have to fight continuous operations. American doctrine needs to recognize this. This doctrine must begin to address how tactical units conduct operations over time as well as over terrain.

Phase I and II
Roer River to Erft Canal



Source: Leo A. Hoegh and Howard J. Doyle, Timberwolf Tracks, page 192.



Source: Lee A. Hoegh and Howard J. Doyle, Timberwolf Tracks, page 193.

ENDNOTES

[1]John Keegan, The Face of Battle: A Study of Agincourt, Waterloo and the Somme (New York: Viking Penguin Inc., 1976), p. 309.

[2]Keegan, p. 308-310.

[3]Technical Cooperation Program, "Human Performance and Military Capability in Continuous Operations," 1974, p. B-2. Hereafter cited as TCP.

[4]TCP, p. B-8.

[5]TCP, p. B-2.

[6]TCP, pp. B-3, B-18 -- B-26.

[7]TCP, pp. B-14 -- B-16.

[8]Combined Arms Combat Developments Activity, "Continuous Operations (CONOPS) Study," Ft. Monroe, VA, 1987, pp. 1-4 --1-5. Hereafter cited as CACDA.

[9]CACDA, pp. 1-11 -- 1-12.

[10]Andrew N. Morris, CSI Report No. 10: Night Combat Operations, (Ft. Leavenworth, KS: Combat Studies Institute, 1985), pp. 30-32.

[11]MAJ Thomas M. McGinnis, "Unit Collapse: A Historical Analysis of Two Divisional Battles in 1918 and 1944," (MMAS thesis, Command and General Staff College, 1987), p. 52, p. 76. The other two regiments, the 109th and 110th Regiments of the 28th Division eventually succumbed to overwhelming casualties and had to stop their attacks.

[12]MAJ John S. Brown, "Winning Teams: Mobilization-Related Correlates of Success in American World War II Infantry Divisions," (MMAS thesis, Command and General Staff College, 1985), p. 122, p. 130. The length and number of combat and rest periods varied extensively among all divisions. This reflected the lack of any established policy on unit rotation. However, there were significantly more breaks in combat in successful units than in divisions with poor combat records.

[13]Field Manual 22-9, Soldier Performance in Continuous Operations, (Washington, D.C.: U.S. Government Printing Office, 8 December 1983), p. 1-2. Hereafter cited as FM 22-9.

[14]FM 22-9, p. 1-2.

[15]Charles B. MacDonald, United States Army in World War II: The European Theater of Operations: The Last Offensive, (Washington D.C.: Center of Military History, 1984), p. 157.

[16]U.S. Army, "104th Infantry Division. World War II data: Operations of the 104th (Timberwolf) Division in Europe," 1945, Carlisle Barracks Archives. Hereafter cited as WWII data. MG J. Lawton Collins to MG Terry Allen, Headquarters, VII Corps, 30 May 1945, enclosed in WWII data.

[17]WWII data, p. 1.

[18]Kent Roberts Greenfield, Robert R. Palmer, and Bell I. Wiley, The Army Ground Forces: The Organization of Ground Combat Troops (Washington, D. C., Office of the Chief of Military History, 1970), pp. 274-275.

[19]Howard J. Doyle and Leo a. Hoegh, Timberwolf Tracks: The History of the 104th Infantry Division, 1942-1945, (Washington, D.C.: Infantry Journal Press, 1946), p. 12.

[20]Doyle, pp. 9-16.

[21]Doyle, pp. 20-27.

[22]Doyle, pp. 23-28.

[23]Doyle, pp. 29-35.

[24]WWII data, pp. 1-2; Doyle, pp. 41-47.

[25]Headquarters, 104th Infantry Division, "After Action Report," 10 November 1944, pp. 1-9. All subsequent 104th Division after action reports will hereafter be cited as AAR, date, page. It should be noted that after action reports were published early in the month following the month in which the activity occurred, ie. the February report was published on 5 March.

[26]AAR, 7 Dec. 1944, pp. 3-7.

[27]AAR, 7 Dec. 1944, pp. 7-22; 5 Jan. 1945, pp. 2-13.

[28]AAR, 5 Jan. 1945, pp. 13-18.

[29]Doyle, pp. 196-205.

[30]MacDonald, p. 157.

[31]AAR, 5 Mar. 1945, Annex 1, pp. 1-2; MacDonald, pp. 139-142. The German units that the 104th Division fought included the 363d and 12th Volksgrenadier Divisions, 9th Panzer Division, 3d Panzer Grenadier Division, and 244th Assault Gun Brigade.

[32]MacDonald, pp. 137-138.

[33]MacDonald, p. 157.

[34]AAR, 5 Mar. 1945, pp. 2-4.

[35]AAR, 5 Mar. 1945, pp. 4-5.

[36]AAR, 5 Mar. 1945, pp. 5-6.

[37]AAR, 5 Mar. 1945, pp. 7-8.

[38]AAR, 5 Mar. 1945, p. 8.

[39]AAR, 5 Mar. 1945, pp. 8-10.

[40]AAR, 5 Ap. 1945, p. 3-4.

[41]AAR, 5 Ap. 1945, pp. 4-6.

[42]AAR, 5 Ap. 1945, p. 6.

[43]AAR, 5 Ap. 1945, pp. 7-10.

[44]Doyle, p. 280.

[45]MacDonald, p. 168.

[46]AAR, 5 Mar 1945, pp. 7-8; MacDonald, p. 168; Doyle, p. 249. The unofficial history by Doyle claims that the Americans captured two regimental commanders plus their staffs. However, the "After Action Report" as well as the official history, The Last Offensive, only claim one battalion with its commander and staff. The Personnel Annex of the "After Action Report" also claims two regimental commanders. I have chosen the lower figure because the official history and the "After Action Report" agree on the action.

[47]The data in this table is based upon the "After Action Reports" published on 5 Mar. 1945, p. 1-11, and 5 April 1945, pp. 1-11. In those operations summaries, the "After Action Reports" provide detailed information on the key actions of each of the battalions each day of the month. In determining the type of action to be assigned in

the table, I assigned the code for the most demanding action performed by each battalion for the majority of each day. A caveat to that is that if a unit attacked during any time during the day, it was rated as attacking. In order of stress on the soldiers and leaders, I ranked attack (A) as the most stressful. Holding in contact (H) was second. Moving to a new position (M) was third. Resting in reserve (R) was rated the least demanding.

[48]AAR, 5 Mar. 1945, pp. 6-7.

[49]AAR, 5 Ap. 1945, pp. 7-9.

[50]AAR, 5 Mar. 1945, p. 8.

[51]Doyle, p. 290.

[52]MG Terry Allen, Night Attacks, (reprint ed. Ft. Bliss, TX: U.S. Army Air Defense School, 1969); MG Terry Allen, Combat Leadership, (reprint ed. Ft. Bliss, TX: U.S. Army Air Defense School, 1969); Headquarters, 104th Infantry Division, Directive for Offensive Combat, (Headquarters: European Theater of Operations, November, 1944). The first two editions are reprints of the original pamphlets published by the 104th Division during World War II. These pamphlets will hereafter be cited as Attacks, Leadership and Combat respectively.

[53]Leadership, p. 9.

[54]Leadership, p. 11.

[55]Leadership, p. 5.

[56]Leadership, p. 4.

[57]Combat, p. 3.

[58]Combat, p. 20.

[59]Combat, p. 22.

[60]Combat, pp. 21-24.

[61]Attacks, p. 1, p. 4-5. Specific guidance on attack timing, fire support, illumination, communications, control measures and attack formations are available in this pamphlet. It is an extremely useful, practical guide to the conduct of basic night operations.

[62]Attacks, pp. 4-5.

[63]Attacks, p. 13.

[64]Doyle, p. 13.

[65]Doyle, p. 14.

[66]Doyle, p. 15.

[67]AAR, 5 Mar 1945, p. 3.

[68]Doyle, p. 204; AAR, 5 Mar. 1945, Annex 2, p. 1. Actual training time depended on the reinforcement rate from the Army, the housing and mess capacity, the training capacity and the need for men in the units. It is interesting to note that the last priority was the need for men in the units.

[69]AAR, 5 Mar. 1945, Annex 2, pp. 1-2.

[70]AAR, 5 Ap. 1945, Annex 2, pp.1-2.

[71]AAR, 5 Mar. 1945, Annex 3, p. 1.

[72]AAR, 5 Mar. 1945, Annex 3, p. 1.

[73]AAR, 5 Ap. 1945, Annex 3, p. 2.

[74]Field Manual 100-5, Operations, (Washington D.C.: U.S. Government Printing Office, 5 May 1986), p. 2. Hereafter cited as FM 100-5.

[75]FM 100-5, pp. 2-5.

[76]FM 100-5, p. 26.

[77]FM 100-5, 26.

[78]FM 100-5, p. 25.

[79]Key manuals consulted in these series include Field Manual 71-2, The Tank and Mechanized Infantry Battalion Task Force, (Washington D.C.: U.S. Government Printing Office, 30 June 1977); Field Manual 71-2J (Coordinating Draft), The Tank and Mechanized Infantry Battalion Task Force, (Washington D.C.: U.S. Government Printing Office, December 1984); Field Circular 71-100, Armored and Mechanized Division and Brigade Operations, (Ft. Leavenworth KS: U.S. Command and General Staff College, 7 June 1984); Field Manual 90-3, Desert Operations, (Washington D.C.: U.S. Government Printing Office, 19 August 1977); Field Manual 90-5, Jungle Operations, (Washington D.C.: U.S. Government Printing Office, 16 August 1982); Field Manual 90-6, Mountain Operations, (Washington D.C.: U.S. Government Printing

Office, 30 June 1980); Field Manual 90-10, Military Operations on Urbanized Terrain, (Washington D.C.: U.S. Government Printing Office, 15 August 1979).

[50]FM 22-9, pp. 1-1 -- 1-12.

[51]FM 22-9, pp. 2-1 -- 2-17.

[52]FM 22-9, pp. 3-1 -- 3-11.

[53]CACDA, p. 3-1; p. D-I-2.

[54]Field Manual 100-2-1, The Soviet Army: Operations and Tactics, (Washington, D.C.: U.S. Government Printing Office, 16 July 1984), pp. 2-6 -- 2-7. Hereafter cited as FM 100-2-1.

[55]FM 100-2-1, p. 2-10 -- 2-11.

[56]CACDA, p. D-I-8.

[57]CACDA, p. D-3.

BIBLIOGRAPHY

Books

Doyle, Howard J. and Hoegh, Leo A. Timberwolf Tracks: The History of the 104th Infantry Division, 1942-1945. Washington, D.C.: Infantry Journal Press, 1946.

Ellis, John. The Sharp End: The Fighting Man in World War II. New York: Charles Scribner's Sons, 1980.

English, John A. On Infantry. New York: Praeger Publishers, 1984.

Greenfield, Kent Roberts; Palmer, Robert R.; and Bell, Wiley I. The Army Ground Forces: The Organization of Ground Combat Troops. Washington D.C.: Office of the Chief of Military History, 1970.

Holmes, Richard. Acts of War: The Behavior of Men in Battle. New York: The Free Press, 1985.

Kellett, Anthony. Combat Motivation: The Behavior of Soldiers in Battle. Boston: Kluwer-Nijhoff Publishing, 1982.

Keegan, John. The Face of Battle: A Study of Agincourt, Waterloo and the Somme. New York: Viking Penguin Inc., 1976.

MacDonald, Charles B. U.S. Army in World War II: European Theater of Operations: [illegible]. Washington, D.C.: Office of the Chief of Military History, 1984.

_____. U.S. Army in World War II: European Theater of Operations : The Siegfried Line Campaign. Washington, D.C.: Office of the Chief of Military History, 1963.

Government Documents

Field Manual 22-9. Soldier Performance in Continuous Operations. Washington, D.C.: U.S. Government Printing Office, 8 December 1983.

Field Manual 71-2. The Tank and Mechanized Infantry Battalion Task Force. Washington, D.C.: U.S. Government Printing Office, 30 June 1977.

Field Manual 71-2J (Coordinating Draft). The Tank and Mechanized Battalion Task Force. Washington, D.C.: U.S. Government Printing Office, December, 1984.

Field Circular 71-100. Armored and Mechanized Division and Brigade Operations. Ft Leavenworth, KS: 1984.

Field Manual 90-3. Desert Operations. Washington D.C.: U.S. Government Printing Office, 19 August 1977.

Field Manual 90-5. Jungle Operations. Washington D.C.: U.S. Government Printing Office, 16 August 1982.

Field Manual 90-6. Mountain Operations. Washington D.C.: U.S. Government Printing Office, 30 June 1980.

Field Manual 90-10. Military Operations on Urbanized Terrain. Washington D.C.: U.S. Government Printing Office, 5 August 1979.

Field Manual 100-2-1. The Soviet Army: Operations and Tactics. Washington D.C.: U.S. Government Printing Office, 16 July 1984.

Field Manual 100-5. Operations. Washington D.C.: U.S. Government Printing Office, 5 May 1986.

Headquarters, 104th Infantry Division. "After Action Report," 5 November 1944 -- 5 May 1945. Ft. Leavenworth Archives Number N-12682 and R-12682.

_____. Directive for Offensive Combat. Headquarters, European Theater of Operations, November 1944. Carlisle Barracks Archives.

_____. The Trail ... of the Timberwolves. Camp San Luis Obispo, CA: Headquarters, 104th Infantry Division, 1945. Carlisle Barracks Archives.

_____. Timberwolves. Headquarters, European Theater of Operations, 1945. Carlisle Barracks Archives.

U.S. Army. "104th Infantry Division. World War II data: Operations of the 104th (Timberwolf) Division in Europe," 1945. Carlisle Barracks Archives.

Theses, Studies and Other Papers

Allen, Terry, MG (Ret). Night Attacks. Headquarters, 104th Infantry Division, 1944; reprint ed., Ft.Bliss, TX: U.S. Army Air Defense School, 1969. Carlisle Barracks Archives.

_____. Combat Leadership. Headquarters, 104th Infantry Division, 1944; reprint ed., Ft. Bliss, TX: U.S. Army Air Defense School, 1969. Carlisle Barracks Archives.

Banks, James H., Steinberg, Jack J. and Farrell, John P. Effects of Continuous Military Operations on Selected Military Tasks. Arlington: U.S. Army Behavior and Systems Research Laboratory, 1970.

Brown, John S. MAJ. "Winning Teams: Mobilization-Related Correlates of Success in American World War II Infantry Divisions." MMAS thesis, Command and General Staff College, 1985.

Combined Arms Combat Developments Activity. Continuous Operations (CONOPS) Study. Ft. Monroe, VA: Training and Doctrine Command, 1987.

McGinnis, Thomas M. MAJ. "Unit Collapse: A Historical Analysis of Two divisional Battles in 1918 and 1944." MMAS thesis, Command and General Staff College, 1987.

Morris, Andrew N. MAJ. CSI Report No. 10: Night Combat Operations. Ft Leavenworth, KS: Combat Studies Institute, 1985.

Rogers, R.J. MAJ. "A Study of Leadership in the First Infantry Division During World War II: Terry de la Mesa Allen and Clarence Ralph Huebner." MMAS thesis, Command and General Staff College, 1965.

Sasso, Claude R. MAJ. Leavenworth Paper No. 6: Soviet Night Operations in World War II. Ft. Leavenworth KS.: Combat Studies Institute, 1982.

Smith, Gorman C. MAJ. "Division Night Attack Doctrine." MMAS thesis, Command and General Staff College, 1964.

Snowden IV, Edgar, LTC. "Effects of Sleep Loss on the Battalion Commander in Continuous Operations (U)." MMAS thesis, Command and General Staff College, 1971.

Technical Cooperation Program. Human Performance and Military Capability in Continuous Operations. Alexandria VA: Defense Technical Information Center, AD-B022 3401, December, 1974.

_____. Performance Limits in Extended Military Operations. Alexandria VA: Defense Technical Information Center, AD-B037 993L, May, 1979.

U.S. Army TRADOC Systems Analysis Activity. "TRASANA - LR-29-85 TRASANA Analysis in Support of the Management of Sleep and Stress in Continuous Operations (MOSSICO) Study (ACN 064146)," Alexandria VA: Defense Technical Information Center, AD-B099 127L, December, 1985.

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