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Cives Arma Ferant: Reconstructing Infantry Combat and Training in the European Theater of Operations

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Abstract

A common theme in memoirs, oral histories, and other sources dealing with servicemen in World War II seems to be a focus on the experience of combat. Training, particularly individual training, is rarely discussed beyond a cursory mention, and if it is discussed at all, the overwhelming tendency is to paint a picture of half-trained cannon fodder, at best.

This paper's goal is twofold: First, explore methods of instruction at the individual and unit levels, and explain the reasoning behind the evolution of training as the Army Ground Forces' understanding of contemporary warfare changed; second, provide a case study at the unit level by examining the combat record of the 28th Infantry Division as well as training experiences from retired soldiers in the infantry branch.

For the sake of brevity and clarity, infantry training in the United States Army will be scrutinized, on the grounds that infantry provided the bulk of combat arms within the United States military. However, the prosecution of combined arms warfare meant that infantrymen had to operate in conjunction with other combat arms such as artillery and armor.

Keywords

World War II, Military, Infantry

Disciplines

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Comments

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Introduction

A common theme in memoirs, oral histories, and other sources dealing with servicemen in World War II seems to be a focus on the experience of combat. Training, particularly individual training, is rarely discussed beyond a cursory mention, and if it is discussed at all, the overwhelming tendency is to paint a picture of half-trained cannon fodder, at best.

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Thesis

Although individual training standards actually increased for new inductees, these higher training standards did not correlate to better performance in combat at either the individual or unit level due to the loss of experience in collective training and combat.

Historiography

Two digitized oral histories from Special Collections were used to show the typical induction experience for soldiers serving in the European Theater of Operations. Both Jay Gross, Jr. and Alan Tobie were inducted into Army service and saw combat as infantrymen in the ETO. These oral histories are not so much intended to identify what Army Ground Forces considered

typical experiences as they are intended to check against what Army Ground Forces considered "standard" individual training experiences.

To enhance understanding of what this experience was like, period materials such as FM 21-20 *Basic Field Manual: Physical Training* and WD PAM 21-9 *Physical Conditioning* will be used to show what was considered acceptable to the Army in terms of individual physical conditioning, in addition to Whitfield B. East's postwar study *A Historical Review and Analysis of Army Physical Readiness Training and Assessment.*

Additionally, pamphlets from Camp Kilmer and Camp Myles Standish will illustrate what the average experience in an embarkation camp was like, while "Shortage of Railroad Equipment for Transportation Purposes: Hearings Before a Subcommittee Pursuant to S. Res. 185," Roger D. Thorne's "When German Prisoners of War Rode the Pennsy," Chester Wardlow's *The Technical Services—The Transportation Corps: Responsibilities, Organization, and Operation*, and two railroad timetables from the wartime and immediate postwar periods will illustrate the complexity of organizing unit or individual movement within the United States.

"Training of the American Soldier During World War One and World War Two" by Roger K. Spickelmier focused on the evolution of training from World War One, where the United States was able to mobilize, but not equip, a relatively smaller force that it eventually managed to surpass in World War Two, and therefore supplements the oral histories by filling in gaps in the training narrative. Where Spickelmier fell short was in his focus on individual, but not unit training. Additionally, while Spickelmier was able to show changes in terms of hours of instruction, he did not actually show how this instruction was delivered or how it was scheduled within basic training. In other words, one is able to know how much instruction in a certain

subject was being given, but without prior experience, one does not know how it fit into the overall basic training curriculum.

Conrad C. Crane, et al.'s *Learning the Lessons of Lethality: The Army's Cycle of Basic Combat Training, 1918-2019* built upon Spickelmier's interrogation of how the infantry branch trained its troops by extending into the present day. Crane et al also showed a more specific breakdown of what phases of training actually entailed, and to a limited extent provided more insight as to where soldiers went for individual training. This included, for certain branches, combined basic and specialized training reminiscent of modern One Station Unit Training (OSUT) programs. However, Crane et al did not show what the actual syllabus was for individual training, nor did Crane et al discuss locations for infantry training or if they were structured similarly to branches with OSUT-style training.

The Army Ground Forces: The Procurement and Training of Ground Combat Troops by William R. Keast and Robert R. Palmer will be used to show what the Army expected its notional collective, rather than individual training standard to be, based on studies conducted with nine infantry divisions (including one segregated or "Negro" division). Although Keast and Palmer's work was exhaustive, it did not focus exclusively on the infantryman, because it focused on Army Ground Forces' role as one of three equal components within the Army. Additionally, Keast and Palmer included other combat arms in their study. While useful in terms of lessons learned in a combined arms environment, it is beyond the scope of what this paper intends to accomplish.

Nathan Marzoli's article "The Best Substitute: US Army Low-Mountain Training in the Blue Ridge and Allegheny Mountains, 1943-1944" discussed large-scale unit training programs in the United States impacting seven infantry divisions, including the targeted 28th Infantry

Division. Marzoli actually went into some detail regarding how unit training was structured and provided a reasonably detailed curriculum for specialized unit training at the battalion, regiment, and division level. This will be supplemented by Marshall A. Becker's *The Amphibious Training Center*, dealing with amphibious training that the 1st, 4th, 28th, and 29th Infantry Divisions received in the United States before the landing forces of Operation Overlord were selected.

Weaver's "The Volunteers of 1941: The Pennsylvania National Guard and Continuity in American Military Policy" and Holt's "Operational Performance of the U.S. 28th Infantry Division, September to December 1944" both provide insight into the early and mid-war aspects of the 28th Infantry Division's operational history. "Operational Performance" in particular, along with Thomas Bradbeer's "General Cota and the Battle of Hürtgen Forest: A Failure of Battle Command?" present contradictory accounts of the 28th Infantry Division's effectiveness in the field, but both examine the division's abortive offensive in rough and heavily wooded terrain.

Antony Beevor's *Ardennes 1944: The Battle of the Bulge* will be used to examine the performance of the 28th Infantry Division during the Ardennes Offensive, particularly the 112th Infantry Regiment's performance in the defense of St. Vith, Belgium, as part of an ad hoc unit consisting of elements from four separate divisions. To a lesser extent, *Ardennes 1944* will also be used to supplement Bradbeer's "General Cota and the Battle of Hürtgen Forest" as well as Holt's "Operational Performance".

Individual Training Theory

By 1940, the Army had recognized that it was not only necessary to establish, organize, and train new units on a wholesale basis, but that its system of training soldiers on an individual replacement basis needed a dramatic overhaul as well. Until this time, the Army's protective mobilization plan had been predicated on the models implemented in the First World War, where

training standards were largely left up to unit commanders at either the battalion, regiment, or brigade level.[1] Additionally, the individual soldier received the same type of training, regardless of what would eventually be termed his military occupational specialty (MOS).[2] This was acceptable in the First World War and in the interwar period mostly due to the smaller overall size of the force; with a greater number of professional soldiers to inexperienced recruits, training could be completed to standard more often than not.[3]

Army leadership recognized that training would need to be somewhat centralized, though the vast numbers of both volunteers and conscripts would inundate the replacement system. To that end, leadership directed Army Ground Forces to establish a number of replacement training depots within the Zone of the Interior.[4] Army Ground Forces partially drew on lessons learned from the First World War, where replacement training depots were also set up to fill out units affected by combat losses.

While this system worked to raise the initial forces employed in the American Expeditionary Force (AEF), the system failed to provide for adequately trained replacements throughout the balance of 1918. Keast and Palmer described the First World War-era system as follows:

> In World War I the plan for producing replacements in the combat arms provided for training in depot brigades set up in each divisional cantonment…Training at the centers

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[1] Conrad C. Crane, Michael E. Lynch, Jessica J. Sheets, Shane P. Reilly, "Learning the Lessons of Lethality: The Army's Cycle of Basic Combat Training, 1918-2019," (Army Heritage and Education Center), 1, 7-8, also Leonard L. Lerwill, *The Personnel Replacement System in the United States Army* (Washington, D.C: Department of the Army, 1954) 242.

[2] Crane et al., "Learning the Lessons," 1. During World War II, MOSes were further broken down into Service Specialization Numbers (SSNs).

[3] Ibid 4. This was purely theoretical; in practice, units during World War I could deploy without conducting any training whatsoever.

[4] Robert R. Palmer and William R. Keast, *The Army Ground Forces: The Procurement and Training of Ground Combat Troops* (Washington, D.C.: US Army Center of Military History, 1991) 169. Army Ground Forces has since been reorganized and redesignated as Army Forces Command (FORSCOM).

> was thrown into constant confusion by emergency drafts, and the training was poorly conducted. The replacements they turned out received, on the average, less than a month of training…It finally became necessary, in order to meet the mounting casualties of divisions in the line, to strip the infantry privates from ten divisions which had arrived in France, thus breaking the divisions up or reducing them to skeletons.[5]

Even with these failures to provide adequately trained soldiers, there were elements of training that Army Ground Forces saw as beneficial or even necessary to emulate. Army Ground Forces found that replacement training centers for individual combat arms was useful because it allowed training to be segregated by combat arm, a practice that continues today.[6] This was slightly modified from the First World War model by the addition of replacement training centers for the support services.[7] What Army Ground Forces sought to do by adding replacement training centers for the support services was to prevent two things: First, prevent the occupational loss of infantry to the support services; second (and directly related to the first), prevent disruption of unit training by stripping combat troops from second-echelon units.[8] In practice, neither goal was totally achieved—as one may see, certain units up to the divisional level were often shoehorned into the role of training units—but in general, Army Ground Forces was successful in creating a segregation between MOSes based upon combat arm or support service.

As always, this system could be misused, abused, or even ignored entirely. In some cases, this was due to a surplus of soldiers within a certain MOS, while a deficit in another MOS had to

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[5] Palmer and Keast, *The Army Ground Forces* (1994), 169-170.
[6] Ibid 170. This process is now known as Advanced Individual Training (AIT) and follows Basic Combat Training (BCT).
[7] Ibid 170-171.
[8] Ibid 171.

be filled. In extreme cases, this was done at echelons up to the division level. In at least one instance, Lieutenant General Lesley McNair, commanding Army Ground Forces, complained at length to General of the Army George C. Marshall about the superficiality of some *ad hoc* reassignments; in one memo dated 1 January 1944, McNair wrote that "One division commander himself told me that when he needed replacements he went to the replacement depot and chose his men individually, regardless of arm or specialty, based primarily on their appearance and actions—somewhat as one would buy a horse."[9]

Additionally, there was jurisdictional friction over which command the replacement training depots would fall under. To give a sense of scale to Army Ground Forces' debate over centralization of training, by the end of the war, the infantry branch alone operated thirteen separate replacement training centers, mostly clustered in the southeastern part of the continental United States.[10] Some of these installations were shared with other combat arms or with the services of supply, such as Camp Roberts, California (shared with the field artillery branch), Camp Hood, Texas (shared with the armor branch), or Camp Robinson, Arkansas (shared with the Medical Corps).[11]

Initially, all replacement centers fell under the command of the Services of Supply, including two directly reporting overseas replacement depots located in the east and west of the continental United States.[12] After an unfavorable report regarding the Shenango overseas replacement depot in April 1943, and a series of inspections the following month, Army Ground

[9] Ibid 182-183. Neither the division nor the commander were named by McNair.
[10] Lerwill, *The Personnel Replacement System* (1954), 267. See Figure 1 for list.
[11] Ibid 267. In general, the Army designates locations with permanently-stationed troops as "forts" while temporary facilities or locations with no permanently-stationed troops as "camps". Camp Hood has since been redesignated as a fort.
[12] Palmer and Keast, *The Army Ground Forces* (1994), 179. These overseas replacement depots were located at Shenango, Pennsylvania and Pittsburg, California.

Forces established its own overseas replacement depots.[13] This arrangement was accompanied by an extension of the infantry training curriculum from thirteen to fourteen weeks, then further extended to seventeen weeks for the balance of the war.[14]

The extension of training from thirteen to seventeen weeks was one of five plans put forward after Army Ground Forces briefly experimented with an eight-week course of common or "branch immaterial" training, followed by a period of schoolhouse instruction once the soldier's MOS had been assigned.[15] This was later reintroduced in August 1944 as a six-week branch immaterial course prior to MOS assignment, but this concept was again dropped in early 1945.[16] Although soldiers, regardless of branch, were expected to be proficient in some common tasks, slight curriculum differences between branches meant that progression of training was sometimes illogical.

In examining a breakdown of hours of instruction for training at the outset of the war versus training after the 1943 reforms, some lessons learned over the course of the war were apparent. A much greater emphasis was placed on individual skills rather than small-unit tactics, with some exceptions.[17] Crane, Lynch, Sheets, and Reilly noted that individual soldier skills received approximately double the number of instructional hours in 1943 than in 1941, while similar trends were noted for what Crane et al called lethality training (effectively weapons training).[18] The primary exceptions to these trends were in bayonet and grenade training, which decreased from 20 and 16 hours of instruction, respectively, in 1941, to 16 and 8 hours of

[13] Ibid 186-187. AGF overseas replacement depots were located at Fort Meade, Maryland and Fort Ord, California.
[14] Ibid 188.
[15] Ibid 396.
[16] Ibid.
[17] Crane et al., "Learning the Lessons," 21.
[18] Ibid. This included familiarization with weapons other than the standard service rifle (usually the M1 Garand semiautomatic or 1903 Springfield bolt-action rifle). These weapons likely included individual weapons such as the M1 Thompson or M3 "Grease Gun" submachine guns, the M1918 Browning Automatic Rifle, along with crew-served weapons such as the M1919 medium machine gun or M2 heavy machine gun.

instruction, respectively, after the 1943 reforms.[19] Additional areas that received less emphasis were fieldcraft, hand-to-hand fighting (referred to in modern terminology as "combatives"), and basic military communication; in the latter two areas, soldiers had no formal instruction.[20]

Collective training at all levels was still given a relatively large amount of instruction. Like bayonet and grenade training, however, the amount of instruction given in collective training decreased after 1943.[21] In this case, the decrease in emphasis on collective training was the result of Army Ground Forces' wariness of training soldiers in units organized along similar lines to the ones that the trainees would be deployed to.[22]

The rationale in this case was that Army Ground Forces wanted to produce generalized infantrymen rather than specialists in certain skills or weapons systems. Producing submachinegunners or automatic riflemen in quantity would have been counterproductive, according to this logic, because once mobilized, a line unit would only have so many of these infantrymen as per its table of organization and equipment (TO&E).[23] It therefore followed that according to this logic, a training unit organized in a similar fashion could only produce so many of those specialists, regardless of whether or not losses among those specialists were above or below those replacement rates.[24] Army Ground Forces came to the conclusion that it was simply more efficient to produce replacement riflemen who could qualify on other weapons than those issued in basic training, then learn the specializations based upon in-theater instruction. If the

[19] Ibid. A postwar study conducted by S.L.A. Marshall, then a brigadier general, supported the de-emphasizing of bayonet drills, including data from the ongoing Korean War. See also Ibid 33-34.
[20] Ibid 21. It is possible that combatives were included as part of physical training. This topic is discussed later.
[21] Ibid.
[22] Keast and Palmer, *The Army Ground Forces* (1994), 410.
[23] Ibid 407. This argument was put forward by Maj. Gen. Harry Hazlett, commander of Replacement and Schools Command.
[24] Ibid.

replacement was used solely in the capacity of a rifleman, then there was little risk in training for the wrong weapon.

Training the Unit

Unit training was typically based on the division, since this was generally considered to be the smallest permanent unit that could be expected to deploy. This theory was also applied to activating new divisions, which would also include individual training for filler replacements.

Prior to June 1942, newly organized divisions were constituted from a cadre, or leadership element, of 172 officers and 1,190 enlisted men.[25] This cadre was selected approximately two to three months before the division was officially activated, generally as a way to get divisional leadership to plan out the expected availability dates for phases of training.[26] These availability dates were based on a 54-week cycle after the activation date, including an allotted 15 days for enlisted filler replacements to arrive at and be processed into the division and the eight week "branch immaterial" phase of individual training.[27]

From June 1942 to early 1943, slight changes in organization were observed, though the training cycle itself did not change until later. General practice indicated a growth of 44 officers and 270 enlisted men, resulting in a cadre of 216 officers and 1,460 enlisted men, while an overstrength component of 15% was added in the case of losses (i.e. failure to complete training, accidents, selection for specialized schools or other training, et cetera).[28] The final composition of a division in the organization process likely consisted of 248 officers and 1,679 enlisted men

[25] Bell I. Wiley, "The Building and Training of Infantry Divisions," in Keast and Palmer, *The Army Ground Forces* (1994) 435-436.
[26] Ibid.
[27] Ibid.
[28] Ibid 438.

in cadre, with 452 officer and 13,425 enlisted filler replacements, totaling 15,804 officers and men.[29]

In late 1942 to early 1943, unit training was shortened from 44 weeks to 35 weeks.[30] This was broken down as follows: 13 weeks (as per the pre-1943 infantry replacement training standards) of individual training, 11 weeks of unit training, and 11 weeks of combined-arms training.[31] For the individual combat arm, the 11-week combined-arms phase of training was a prolonged validation period, proving that the combat arm in question, be it armor, artillery, or infantry, could work in concert with at least one of the other two arms.[32] The unit and combined-arms phases could be conducted at the division's home station, but more often than not, they were conducted at five maneuver areas scattered throughout the United States.[33]

Based upon expected shipping dates for units, a divisional unit could be expected to go through at least one maneuver area during its period of stateside training. They tended to specialize in types of operational environments; for example, the West Virginia Maneuver Area was used for familiarization in mountaineering as well as warfare in woodland terrain, while the California-Arizona Maneuver Area specialized in hot-weather environments such as deserts.[34]

In their most basic form, the maneuver areas consisted of empty or unused land surrounding a central installation. In some cases, airfields and associated gunnery or bombing ranges were also used for specialist training, as well as for flying units from the Army Air

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[29] Ibid. Note that this figure without the overstrength allowance approximates the 28th Infantry Division's authorized wartime strength of approximately 14,000 officers and men. See Jeffrey P. Holt, "Operational Performance of the U.S. 28th Infantry Division, September to December 1944," (master's thesis, United States Army Command and General Staff College, 1994), 36.
[30] Wiley, "Training Infantry Divisions," in Keast and Palmer, *The Army Ground Forces* (1994), 444.
[31] Ibid.
[32] Ibid 446-448.
[33] "Shortage of Railroad Equipment for Transportation Purposes: Hearings Before a Subcommittee Pursuant to S. Res. 185," (United States Senate, Committee on Interstate Commerce, Washington D.C., 1943), 260. These were located in Oregon, California, Tennessee, Louisiana, and West Virginia.
[34] "Shortage of Railroad Equipment" (1943), 260.

Forces.[35] The central installation was used for processing units and their equipment as they arrived at the maneuver area, as well as the training staff itself and ancillary personnel such as base mechanics, cooks, signals and communications specialists, and so forth.[36] Depending upon the maneuver area's environment or purpose, technical advisors or instructors would accompany the training staff, who served as umpires or referees for the force-on-force portion of the exercise, and range safety officers who supervised live-fire portions of the exercise.[37]

Although safety was considered to be vital during the unit and combined-arms phases of training, injuries and fatalities were very real hazards. One incident in March 1944, in the West Virginia Maneuver Area, resulted in the loss of two enlisted men and one officer before any of them had set foot overseas.[38] While attempting to cross the Blackwater River south of the town of Davis, a soldier from the 35th Infantry Division lost his footing and was swept away by the current. A nearby officer jumped in to try to rescue the soldier, but he too was swept away. A third soldier was also swept away downstream. All three drowned, but only one body was ultimately recovered.[39]

Physical Readiness Training

In March 1941, a new field manual superseded prior literature regarding physical readiness training.[40]As more conscripts were inducted into the Army, it became apparent that "the average recruit does not possess the degree of physical fitness required of a trained

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[35] "Site Layout: Northwest Maneuver Area," [map], scale not given, US Army Corps of Engineers, n.d. By way of example, the Oregon, or Northwest Maneuver Area, comprised the central post of Camp Abbott, with the nearby Fort Rock Maneuver Area, Redmond Army Airfield, and two air-to-ground weapons ranges.
[36] Nathan A. Marzoli, ""The Best Substitute": U.S. Army Low-Mountain Training in the Blue Ridge and Allegheny Mountains, 1943–1944," *Army History*, no. 113 (2019): 12.
[37] Marzoli, "The Best Substitute," (2019) 12.
[38] Ibid 16.
[39] Ibid.
[40] "FM 21-20 Basic Field Manual: Physical Training" (Department of War, Washington, D.C., 1941), 1.

soldier."[41] To correct this, physical training was a vital aspect of both individual and unit training.[42]

Physical readiness training, as the Army understood it, was not yet a fully standardized process as outlined in the present-day Army Combat Fitness Test,[43] but the Army did want to establish a baseline statistic that it considered an acceptable minimum. It is important to note that the minimum standards for physical fitness testing were given as standards in field uniform, rather than in PT uniform.[44]

To meet the minimum standards, as put forth in the 1941 version of FM 21-20 (i.e. the lowest of four categories that the Army published), a soldier had to be able to complete a 100 yard dash in 14 seconds, a running high jump of 45 inches, a running broad jump of 12 feet, and 20 push-ups, graded for form. Additional minimum standards included a half-mile run of 3 minutes and 15 seconds, while a quarter mile was supposed to be completed in 87 seconds.[45] While these minimum standards were not particularly difficult for the average soldier to exceed once training was complete, it was not uncommon for otherwise qualified inductees to wash out of training or to be rejected outright from military service.[46]

In 1941 and early 1942, Colonel Theodore Bank, at that time Chief of the Athletic and Recreation Branch, began to collaborate with Charles McCloy of the University of Iowa and

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[41] "FM 21-20" (1941), 1.
[42] Ibid.
[43] The ACFT is in the process of superseding the Army Physical Fitness Test (APFT). It is scheduled to replace the APTF no later than October 2020.
[44] Ibid 5-6. It is possible, if not likely, that a physical training uniform was not prescribed at all, though FM 21-20 does show the soldier demonstrating calisthenics as wearing athletic clothing.
[45] Ibid.
[46] Whitfield B. East, *A Historical Review and Analysis of Army Physical Readiness Training and Assessment*, (Combat Studies Institute Press, US Army Combined Arms Center: Fort Leavenworth, KS, 2013), 82.

A.A. Esslinger of Stanford University in designing a standardized PRT testing model.[47] In total, 25 separate tests were administered to approximately 400 soldiers.[48] Bank, McCloy, and Esslinger found that ten events correlated with determining overall fitness: Pullups, burpees, broad jumps, 75-yard piggyback runs, a dodging run, a six-second dash, situps, and a 300-yard run. The tests were then validated by a battalion of the 125th Infantry Regiment, stationed at Camp Page Mill, California.[49]

The resulting test battery was the Army Ground Forces Test (AGFT), officially adopted in 1942, with nine total events: Pullups, burpees, squat jumps, pushups, a 70-yard piggyback run, situps, a 300-yard run, a 75-yard zig-zag run, and a 4-mile loaded road march.[50] This test was revised yet again in 1944 by eliminating the zig-zag run and loaded road march events, and additionally lengthening the piggyback run event to 100 yards. The revised test, dubbed the Physical Efficiency Test Battery (PETB), was published in War Department Pamphlet (WD PAM) 21-9 in May 1944.[51]

Unlike the 1941 version of FM 21-20, WD PAM 21-9 used a far more detailed, percentile-based system of scoring, with five scoring categories.[52] Still, there were deficiencies in the adopted test. An "average" score could, in theory, net the tested soldier only 285 out of 700 total points; percentiles for the "average" category could be as low as the 35th percentile.[53]

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[47] East, *Physical Readiness Training* (2013), 89. COL Bank was known for playing quarterback at the University of Michigan under Fielding Yost, then coaching at Tulane University and the University of Idaho while serving in the Army Reserves.
[48] Ibid.
[49] Ibid 89-90. Conveniently, Camp Page Mill had been constructed on land donated by Stanford University. See Don McDonald, *Early Los Altos and Los Altos Hills* (Arcadia Publishing: Mount Pleasant, SC, 2010), 95.
[50] East, *Physical Readiness Training* (2013), 90. Although administering the AGFT was optional, it was strongly recommended.
[51] "WD PAM 21-9: Physical Conditioning" (Department of War, Washington, D.C., 1944) 71. Testing events were presumably selected due to minimal equipment requirements. See Figure 2 for events and rough scoring standards.
[52] "WD PAM 21-9" (1944) 79.
[53] Ibid.

Additionally, a study conducted by the Army Ground Forces Medical Research Laboratory, conducted from September 1942 to March 1944 found that individual performance on the AGFT tended to be overpredicted, with most test subjects performing better than average.[54]

Nonetheless, the AGFT and PETB represented a marked improvement in understanding how physical readiness and training correlated to the training cycle. Planners generally understood three phases of physical training, the first two phases of which more or less coincided with the originally envisioned thirteen-week training cycle.[55] Training sessions were originally intended to take 1.5 hours per day, under FM 21-20.[56] In practice, this requirement was not fully met by physical training sessions, but individual training could often cover for the balance of physical training requirements.

Bank et al found that the first two phases of physical training were the toughening and slow improvement phases.[57] This generally coincided with Bank, McCloy, and Esslinger's experiences in coaching or other applications of sports medicine.[58] The first phase, or the toughening phase, was characterized in WD PAM 21-9 by "a period of muscular stiffness and soreness", which the individual soldier would recover from in the normal course of training.[59] During this phase, which would ordinarily last between one to two weeks, soldiers would focus more on precisely executing repetitions rather than executing them in quantity.[60]

The slow improvement phase would take up the bulk of the training cycle, depending upon the age or starting fitness of the individual soldier.[61] Contrary to its name, the slow

[54] Ibid 98. Conversely, Army Air Forces' physical tests tended to underpredict physical fitness.
[55] Ibid 99.
[56] Ibid.
[57] East, *Physical Readiness Training* (2013), 99.
[58] Ibid.
[59] "WD PAM 21-9" (1944) 62.
[60] Ibid.
[61] Ibid.

improvement phase was characterized in WD PAM 21-9 by initially rapid improvement in fitness, usually characterized by increasing workload over time.[62] At a certain point, however, improvement was usually observed to taper off until the soldier's individual improvements were no longer appreciable, or alternatively had met or exceeded standards in the "excellent" score category of the PETB.[63]

Once the slow improvement phase was complete, the individual soldier moved into the sustainment phase. Because WD PAM 21-9 was adopted after the extension of training from thirteen to seventeen weeks, the balance of individual training was conducted in the sustainment phase, with the major concern being the continuation of a high degree of physical activity during deployment.[64]

Although rehabilitation for soldiers returning to duty was a possibility, WD PAM 21-9 omitted sections regarding rehabilitation. It is therefore unclear as to which phase soldiers returning to active duty after wounds or injuries went into, or even if a unit was to be taken out of the battle line and sent for refit.

Movement Overseas

Once a unit was given orders for movement overseas, it could travel hundreds of miles before even reaching a port of embarkation. Although American divisions possessed a far higher degree of mechanization when compared to divisions in other armies, divisions heading overseas typically avoided traveling by road for long distances.

Keeping in mind that road travel as a unit was an unlikely prospect, divisional units would coordinate travel with railroad companies along the intended route. A statement made by

[62] Ibid.
[63] Ibid. See also Figure 2.
[64] Ibid 62-63. A section of WD PAM 21-9 was dedicated to conducting PRT aboard transport ships and the like.

Lieutenant Colonel I.S. Morris before a Senate committee illustrated the complexity of a typical operation:

> We will say that through the normal course of events a movement is ordered today. We are told it is to leave Camp A on the 30th of December…and is to require 12 tourist sleeping cars. In the meantime, between now and December 30, many other movements will be organized. We set up a clearinghouse in our organization…they discover that on the 31st of December there is going to be a movement which comes into Camp A and will have, we will say, 14 tourist cars in it. If we let this movement go out on the 30th of December, it means that the railroads are going to have to direct some equipment in there to take those boys out on the 30th and on the 31st they are coming in with another movement, which requires deadheading passenger equipment.[65]

In many cases, Lt. Col Morris' example was actually grossly simplified; interline travel was not discussed, although that was tangentially related to Morris' area of expertise. That would mean that Morris and other transportation personnel had to coordinate movements on two or more railroads, most of which had limited experience with interline travel of whole trains. Those railroad companies that did have experience with interline travel of whole trains would often be hampered in their efforts by existing scheduling.

For the duration of the war, this situation was aggravated by lack of new rolling stock, and when new rolling stock was available, it was often not available in appreciable quantities.[66] This situation was only slightly alleviated by government restrictions on the use of sleeping cars enacted by the Office of Defense Transportation at various stages throughout, and slightly after,

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[65] "Shortage of Railroad Equipment" (1943) 258.
[66] Ibid 259, see also Roger D. Thorne, "When German Prisoners of War Rode the Pennsy," *Railroad History*, no. 205 (Fall/Winter 2011) 34.

the war, mostly between city pairs of short distances.[67] In some cases, the situation was significantly aggravated by large numbers of prisoners of war, chiefly German or Italian, needing to be transported to inland prisoner-of-war camps.[68]

Despite these difficulties, the Army built temporary installations as staging areas for overseas movement along highly trafficked rail lines, both for individual and unit movement. These temporary installations were administratively used as subcamps for ports of embarkation, meaning that each staging camp could be called upon to handle multiple divisions at a time. Depending upon the size of the port of embarkation, there could be multiple staging camps subordinated to it. Ultimately, a port of embarkation could handle approximately 100,000 personnel on one shipping day, though in practice shipping days could be weeks apart.[69]

As stated beforehand, because shipping dates could be infrequent and there was a strong impetus to keep soldiers physically fit, gymnasiums, football or baseball fields, and other athletic facilities were present in relatively large numbers in embarkation camps. For example, Camp Kilmer had four gymnasiums and one baseball field, or roughly one athletic facility per 7,500 people (about half of one division).[70] Camp Myles Standish had a multipurpose field and a recreation hall, roughly one athletic facility per 12,000 people (slightly less than one division).[71]

With the average dwell time at a typical embarkation camp being 7 to 11 days, the unit would then board another train.[72] In most cases, this train would stop at or near piers or wharves, where the unit would then debark, then finally board a ship out of the Zone of the Interior.

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[67] "Condensed System Timetables, Effective March 15, 1946" (Pennsylvania Railroad: Philadelphia, PA: 1946) 3. City pairs restricting the use of sleeping cars were generally less than 450 miles apart.
[68] Thorne, "German Prisoners of War" (Fall/Winter 2011) 34.
[69] Chester Wardlow, *The Technical Services—The Transportation Corps: Responsibilities, Organization, and Operation,* (Washington, D.C.: US Army Center of Military History, 1999) 112.
[70] "Information Map of Camp Kilmer, NJ," [map], scale not given.
[71] "Welcome to the States: Boston Port of Embarkation, Camp Myles Standish, 1945," Department of the Army, 1945: 6-7.
[72] Wardlow, *The Transportation Corps*, (1999) 112.

The 28th Infantry Division's Training Experience

Despite its use herein as a case study, the 28th Infantry Division had a somewhat unusual reputation throughout the course of the Second World War. Its prewar makeup, in a postwar analysis of enlistment data by Michael E. Weaver, indicated that half of all enlistees were high school graduates, roughly 4.5 times greater than the national average of eleven percent,[73] while only three percent of new enlistees had less than an eighth-grade education, compared to the prewar Army's average of 31 percent of soldiers with less than an eighth-grade education.[74] 92 percent of the soldiers in Weaver's sample were natives of Pennsylvania.[75] The 28th Infantry Division's attachment to the Commonwealth of Pennsylvania ended, however, upon its federalization on February 17, 1941.[76]

The division was organized along the lines of a "square" infantry division, meaning that it was organized into four infantry regiments in two brigades each, with an artillery brigade of three regiments and an engineer regiment.[77] This was a relatively large formation for its time, with a nominal strength of about 22,000 officers and men, but it was too large and unwieldly for mobile operations.[78]

This structure was modified into the "triangular" division structure in January 1942, which compensated for the loss of an infantry regiment and the downsizing of the artillery

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[73] Michael E. Weaver, "The Volunteers of 1941: The Pennsylvania National Guard and Continuity in American Military Policy," *Pennsylvania History: A Journal of Mid-Atlantic Studies* 72, no. 3 (2005): 355. While eighteen percent of Pennsylvania National Guardsmen had completed some post-secondary education, only seven percent had at least a bachelor's degree. One quarter of all bachelor's degree holders in the Pennsylvania National Guard were members of Troop A, 104th Cavalry Regiment, which had a reputation of being comprised of Philadelphia high society.
[74] Weaver, "Volunteers of 1941" (2005): 356.
[75] Ibid 358.
[76] Ibid 360.
[77] Holt, "Operational Performance" (1994): 14.
[78] Ibid. In practice, the 28th ID was almost 50% understrength. See Ibid 11.

brigade to one regiment by increasing the number of vehicles available.[79] Additionally, with the increased number of vehicles available to the unit, the three individual regiments could operate more autonomously with attached artillery, engineer, or other units. This theory of operation, called the Regimental Combat Team (RCT), was also eventually adapted by the Marine Corps during operations in the Pacific Theater.[80]

At this point, the division was in the thirteen-week individual training cycle discussed previously, meaning that it was receiving filler replacements directly from reception centers. Personnel exigencies also meant the transfer of more experienced officers and noncommissioned officers to provide cadre personnel for newly organized divisions.[81] This created problems because every time a new group of men arrived, training was stopped and restarted. This significantly delayed the completion of individual training to the point where the division was conducting individual training during the unit and combined arms phases of training.[82]

Under standards for new divisions prior to 1942, the division should have been ready, or nearly so, for deployment overseas. Because the division reorganized so late in its nominal training cycle, along with aggravating factors such as personnel transfer and poor performance in the 1941 Carolina Maneuvers, it was far from ready.[83] In fact, these radical changes very likely reset the division's availability cycle to the individual training phase.

After reorganization and a more stable period of individual training in 1942, the division moved to conduct amphibious training at Camp Gordon Johnson, Florida, and Camp Pickett,

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[79] Ibid 15. This also reduced the chain of command by one level, meaning that the divisional commander could take more control over the regiments.
[80] Ibid 16. The Marine Corps continues to use the RCT theory of operation, while the Army uses the similar Brigade Combat Team (BCT) concept.
[81] Ibid 14. Holt specifically notes that part of the 45th Infantry Division's cadre was formed from 28th ID personnel.
[82] Ibid 16.
[83] Ibid. The constant training issues faced by the division resulted in the relief of Major General Garesch Ord by then-Maj. Gen. Omar Bradley.

Virginia in January 1943.[84] For all units, not simply for the 28th ID, amphibious training was characterized by "haste and confusion", particularly at Camp Gordon Johnson, which succeeded Camp Edwards, Massachusetts as the home of the Amphibious Training Center until the training center was disbanded in late 1943.[85] A postwar study found that:

> At Camp Edwards and at Carrabelle [Camp Gordon Johnson] sufficient boats were never available to allow all personnel of the student units to practice in boats at the same time, so mock-ups were built on dry land and students were trained in them. These improvisations were built the same size as the real boats and served as valuable training aids in teaching methods of loading and debarking…Even moving boats and the rolling sea were improvised on dry land to teach firing of machine guns mounted in landing craft. The device used was a mock-up boat made of 2 x 4's and burlap and mounted on a jeep. The jeep then traversed a rolling roadway, similar to the roller-coaster idea, which reproduced fairly accurately the motion of a boat in the water and afforded students manning the machine guns an opportunity to try their hand at firing on a simulated beachline from a simulated boat.[86]

Training organization at the Amphibious Training Center was conducted by what training personnel called "groupments", lettered from A to F. They were organized as follows: Groupment A "consisted of all officers assigned to G-2, G-3, and G-4, and the division automotive officer, engineer officer, ordnance officer, signal officer, surgeon, and quartermaster."[87] Groupments B, C, and D each consisted of an infantry RCT.[88] Groupment E

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[84] Ibid 18. Maj. Gen. Bradley had by this point been reassigned elsewhere.
[85] Marshall A. Becker, *The Amphibious Training Center,* (Army Ground Forces, 1946): 57.
[86] Becker, *The Amphibious Training Center* (1946): 45-48.
[87] Ibid 49. G-2, G-3, and G-4 refer to intelligence, operations, and logistics staff groups at the division level or higher, respectively. Corresponding staff groups at the regiment level or lower receive an S- prefix, e.g. S-2, S-3, and so forth.
[88] Ibid.

was made up of the division headquarters, the military police company, the headquarters battery for the divisional artillery regiment, reconnaissance troop, and other troops.[89] By the time the Amphibious Training Center had relocated to Camp Gordon Johnson, Groupment F, which consisted of any attached commando or special operations troops, had been eliminated from the training organization.[90]

Upon completing amphibious training at Camp Pickett and Camp Gordon Johnson, the division moved to the West Virginia Maneuver Area, where it would conduct low-mountain and woodland training operations for two months (August 1, 1943 to September 30 of that same year).[91] Training there was usually broken up into weekly segments, with the first week of training given to instruction in mountain or night driving, packboard usage, and exercises at the squad, company, and platoon levels.[92] The second week was broken up into two battalion and two RCT exercises, each lasting approximately one to two days.[93] While descriptions of the 28th ID's experiences in these exercises are not known to be extant, an experience typical of simulated combat came from the 77th Infantry Division's 305th Infantry Regiment during the 77th ID's rotation through the West Virginia Maneuver Area.[94]

Under normal circumstances, an RCT would detach one battalion and certain supporting elements to act as a notional "Red Force". The rest of the RCT would operate as the "Blue Force".[95] The 305th Infantry Regiment's exercises took place at Jennington, West Virginia, east of Elkins, and were described as follows:

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[89] Ibid.
[90] Ibid 58.
[91] Marzoli, "The Best Substitute," (2019) 12-13.
[92] Ibid 13.
[93] Ibid.
[94] Ibid 13-14. The 77th ID was the only division trained at the West Virginia Maneuver Area to fight in the Pacific Theater.
[95] Ibid.

> Late on (sic) the evening of 27 November 1943, commanders received information that the hypothetical "Red Division" was concentrating in the vicinity of Piedmont, 45 miles to the northeast, and had sent forces to the west. Red patrols had also been sighted nearby along the Dry Fork. The RCT was to attack at 0700 the following day. Their goal was to establish a bridgehead over Dry Fork, with the objective of moving north and east to seize a high ridge running from Pointy Knob #1, to Chimney Rock, to Pointy Knob #2, and destroying all enemy forces encountered along the way.[96]

The 305th Infantry Regiment's regimental exercise was terminated on the 30th at approximately 1245, with the entire regiment reforming for a live-fire exercise beginning at 0830 on December 2.[97] After each exercise, the training staff would then debrief unit leadership as to what each unit did well and what each unit did poorly, such as failure to post security while in assembly areas, failure to dig in while in a defensive posture, or "skylining" by walking along exposed ridges.[98]

Once the training cycle at the West Virginia Maneuver Area was complete, the 28th ID boarded troop trains bound for Camp Myles Standish in Taunton, Massachusetts.[99] It is not known how long this trip would have taken, but period timetables from the Western Maryland Railway and Pennsylvania Railroad give an approximation for a similar trip to Camp Kilmer, New Jersey as over 12 hours long.[100] The division then boarded a troop ship for overseas movement, and on October 18, 1943, the 28th Infantry Division arrived in Britain, establishing its

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[96] Ibid 14.
[97] Ibid.
[98] Ibid 15. This is not to say that the training staff themselves acted in a tactically-sound manner. See Ibid 16.
[99] Danny M. Johnson, "Camp Myles Standish, Massachusetts," *On Point*, 13 no. 2 (Fall 2007): 27.
[100] "Condensed System Timetables" (1946) 37, "Passenger Time Tables, Schedule in Effect June 2, 1943" (Western Maryland Railway: Baltimore, 1943) 5. Camp Myles Standish would have been reached by further interchange with the New York, New Haven, and Hartford Railroad.

headquarters at Tenby, Wales.[101] By April 15, 1944, the division headquarters had been relocated to Chiseldon.[102]

While stationed in Britain, the 28th Infantry Division continued to train for amphibious assault. Training there was concentrated at the Assault Training Center in Woolacombe, Devon, which had been chosen because its characteristics generally matched that of Omaha and Utah Beaches.[103] Rupperthal described the exercise area as a 25 square mile area, including 8,000 yards of beach on the Bristol Channel and another 4,000 yards of beach on the Taw estuary.[104] A second training area, based in Slapton, was not used by the 28th Infantry Division for training, but it was eventually used for large-scale exercises as well.[105] Training mimicked the training cycles at Camp Pickett and Camp Gordon Johnson, but also included provisional units known as Engineer Special Brigades.[106] These would be attached to the divisions selected for the assault, then detached to handle over-the-shore logistics as well as operating temporary "Mulberry" harbors.[107]

In the event, the 28th Infantry Division was not actually selected for the landing on Omaha or Utah Beach, although the three American divisions that ultimately were selected had also trained at amphibious training centers within the United States, in addition to the Assault Training Centers at Woolacombe and Slapton.[108] In theory, however, the 28th Infantry Division

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[101] *Order of Battle of the United States Army World War II European Theater of Operations*, (Office of the Theater Historian: Paris, France) 1945: 115-116.
[102] *Order of Battle* (1945) 115-116.
[103] Roland G. Rupperthal, *The European Theater of Operations: Logistical Support of the Armies, Volume I: May 1941-September 1944,* (Washington, D.C.: US Army Center of Military History, 1995): 341.
[104] Rupperthal, *Logistical Support of the Armies* (1995) 342.
[105] Ibid 345. Slapton Sands was later the site of Exercise Tiger, which was a large-scale rehearsal for the landings marred by German naval attacks and friendly fire incidents.
[106] Ibid 343.
[107] Ibid. The Mulberry harbor concept was essentially to create temporary harbors that could be used until port facilities could be captured and operated.
[108] Ibid 344.

was a very capable formation, particularly considering it had wasted a year of training prior to its reorganization, gone through extensive personnel turnover, and had three divisional commanders in just as many years.

Bloody Buckets

The first elements of the 28th Infantry Division landed at Omaha Beach on July 22, 1944, approximately six weeks after the 1st and 29th Infantry Divisions secured the beachhead.[109] The division was commanded by Major General Lloyd Brown, who had succeeded Maj. Gen. Omar Bradley when the latter was reassigned.[110] The situation into which the division was placed was a relatively static, siege-like environment caused by the hedgerows prevalent in Normandy.[111] To make matters worse, coordination between Army Ground Forces and Army Air Forces was mediocre at best.[112]

An unusually unfortunate example of poor communication happened on July 25, just three days into the 28th Infantry Division's commitment to combat. First Army, to which the division had been assigned as part of its XIX Corps, was focusing efforts on breaking out via the town of St. Lo.[113] On July 25, the plan was to advance following a preplanned airstrike on one of these roads.[114] Lieut. Gen. Courtney Hodges, commander of First Army, described what actually happened:

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[109] Thomas G. Bradbeer, "General Cota and the Battle of the Hürtgen Forest: A Failure of Battle Command?" *Army History*, no. 75 (2010): 22.
[110] Bradbeer, "A Failure of Battle Command?" (2010) 22.
[111] Holt, "Operational Performance" (1994): 21. The hedgerows or *bocage* restricted vehicular movement and visibility and provided units in the defense with excellent natural cover and concealment.
[112] William C. Sylvan and Francis G. Smith, "Operation Cobra and the Breakthrough at St. Lô, 25–31 July 1944," in *Normandy to Victory: The War Diary of General Courtney H. Hodges and the First U.S. Army*, ed. John T. Greenwood (Lexington, Kentucky: University Press of Kentucky, 2008), 68-70.
[113] Sylvan and Smith, "Operation Cobra" in *Normandy to Victory* (2008): 65.
[114] Ibid 65.

> The sky was filled with the weary, earfilling drone of B-24s, and we looked through the torn corner of the house to the north. As far as the eye could reach they came—flying in twelves…The last notation I made in the count I was keeping for the General of those overhead was at 1010, when another large group of heavies went overhead. The next group, three or four minutes later, was the first to strike where unwanted. The warning was the same—the eerie whistle—but it was more urgent than the previous day's, and we seemed to have more time to run. Most of the party reached the sunken road behind the house, or the ditch behind the road, when the bombs hit and tore the earth to shreds. Again, we found out later, they had smacked down the north-south road, and again to the right, and again on the two leading battalions of the 120th Inf (sic: Infantry Regiment). We got up…Against their advice, General McNair had insisted, for the second successive day, in staying on the very front lines…When the first cluster of bombs hit, the Major said that General McNair, to the very best of his knowledge, was occupying a foxhole just off the road, and some thirty yards from him…He led us a few yards up the road, twenty yards short of the crossroads at coordinate 446670, and there on the side of the road itself, indisputably tossed there by the explosion of the bomb, was the body of General McNair, recognizable by the shoulder patch and general's stars.[115]

Including Lieut. Gen. McNair, approximately 100 men were killed and a further 500 wounded by a premature weapons release.[116] This also included the commanding officer of the 120th Infantry Regiment, Col. Harry A. "Paddy" Flint.[117] A few days later, a staff officer was declared missing.[118]

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[115] Ibid 65-70.
[116] Ibid 71.
[117] Ibid.
[118] Ibid 74.

The 28th Infantry Division was not immune to its own casualties, and losses among junior leaders, i.e. platoon or squad leaders, mounted especially rapidly.[119] It was becoming obvious that Maj. Gen. Brown was being overwhelmed by the pace of combat, and on August 12, Brown was formally relieved of command, being replaced by Brigadier General James Wharton.[120] Wharton was killed in action that same day, however, and was replaced by Brig. Gen. Norman Cota.[121]

Following First Army's breakout from Normandy, the 28th Infantry Division was reassigned to V Corps.[122] Just two weeks into Cota's tenure, the division was ordered to attack German positions in and near the eastern part of Paris.[123] This attack was unusual in that the division's movement to contact was held as a public parade.[124] This decision was on one hand pragmatic, as it was the best way to get the division to regain contact with German forces, but on the other, it was a political decision caused by disagreements between Eisenhower and de Gaulle.[125] In any event, the citizens of Paris watched as an American infantry division marched down the Champs Elysees.

The division continued to move east, covering 270 miles in a span of ten days.[126] Starting on September 13, the 28th Infantry Division began its attack on the Siegfried Line.[127] Shortages of ammunition, as well as lack of equipment such as satchel charges and Bangalore torpedoes,

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[119] Holt, "Operational Performance" (1994): 21.
[120] Bradbeer, "A Failure of Battle Command?" (2010): 22 and Holt, "Operational Performance" (1994): 21.
[121] Ibid. Cota had been instrumental in forming the Assault Training School at Woolacombe, had previously served as assistant division commander with the 29th Infantry Division, and had earned the Distinguished Service Cross for actions on Omaha Beach.
[122] Bradbeer, "A Failure of Battle Command?" (2010): 22.
[123] Ibid and Holt, "Operational Performance" (1994): 22.
[124] Antony Beevor, *Ardennes 1944: The Battle of the Bulge,* (Viking: New York, 2015), 3-4, see also Bradbeer, "A Failure of Battle Command?" (2010): 22 and Holt, "Operational Performance" (1994): 22.
[125] Ibid. See Figure 4.
[126] Ibid.
[127] Bradbeer, "A Failure of Battle Command?" (2010): 23 and Holt, "Operational Performance" (1994): 28.

meant that Cota could only commit two battalions, with the 112th Infantry Regiment temporarily detached to another division.[128]

The mounting casualties among infantrymen, particularly in junior leadership, coupled with shortages of critical equipment, meant that the division was quickly becoming ineffective in combat. Cota finally released the rest of the two regiments under his command on September 14.[129] The town of Üttfeld was nearly captured by elements of the 110th Infantry Regiment on September 17, but due to losses among the entire V Corps, Maj. Gen. Leonard Gerow ordered Cota to break contact with German forces near Üttfeld, consolidate his forces, and prepare to receive replacements.[130] In five days of nearly continuous attacks, the 28th Infantry Division had taken over nineteen hundred casualties, as well as 830 non-battle injuries, mostly combat stress related. For the entire month of September, the division had suffered 230 killed in action, 1,815 wounded in action, 141 missing, 63 captured, and 961 other injuries.[131] Recognizing the division's tenacity in combat as well as the number of casualties it had taken, German forces dubbed the 28th Infantry Division "*der blutiger Eimer*". This nickname was adopted by the division in a tongue-in-cheek manner; men of the 28th Infantry Division soon referred to their division as the "Bloody Buckets."[132]

Replacements

By this point in the war, the training schedule for replacements had been modified into the seventeen week-long curriculum. As previously mentioned, the infantry had the greatest need of replacements, and operated thirteen Infantry Replacement Training Centers clustered in the

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[128] Ibid. The 112th Infantry Regiment was detached to the 5th Armored Division.
[129] Holt, "Operational Performance" (1994): 28.
[130] Ibid.
[131] Ibid.
[132] Beevor, *Ardennes 1944* (2015): 3-4 and Bradbeer, "A Failure of Battle Command?" (2010): 23. The 28th ID's shoulder sleeve insignia is a keystone, which resembled a bucket. The full-color version of the SSI is colored red; hence the nickname. See Figure 5.

southern United States.[133] The replacements' training, however, did not begin in these training centers.

A replacement, regardless of branch, would be inducted at a reception center.[134] Often, this was a different location than the replacement's training station. For example, Alan Tobie, then a student at the University of Connecticut, was inducted at Fort Devens, in Ayer, Massachusetts, then conducted basic training at Camp Croft in South Carolina, first as a communications specialist, then later as a rifleman.[135]

Pre-induction physicals were primarily conducted by draft boards, mostly in county seats or in nearby cities. For exceptions to this rule, such as the experience of Jay Gross, Jr., the draft board's location could be quite inconvenient; not counting travel time from Gross' home in St. Marys, Pennsylvania to the nearest rail station in Emporium, a one-way trip to Erie, where the draft board physical was held, would take approximately five and a half hours.[136]

A student eligible for the draft at Gettysburg College in 1943 or later could expect to be inducted into service at either Fort Meade, Maryland, or the New Cumberland Army Depot, Pennsylvania; the latter accounting for approximately 90 percent of all Pennsylvanians entering the Army.[137] Most Gettysburg students, if drafted, tended to be inducted at Fort Meade.[138] This

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[133] Lerwill, *The Personnel Replacement System* (1954), 267.
[134] "Shortage of Railroad Equipment" (1943): 261.
[135] Alan Tobie, interview by Michael Birkner, June 3, 2015, transcript, Gettysburg College Special Collections. Devens is rendered as "Devers" in the transcript.
[136] Jay Gross, Jr., interview by Jeremy S. Lechner, October 12, 2009, transcript, Gettysburg College Special Collections, and Condensed System Timetables" (1946): 32.
[137] Barbara E. Hightower, "Historic American Engineering Record: New Cumberland Army Depot" (Department of the Interior, Washington, D.C. 1984) 18 and "Army Calls 81 Today, 28 Monday," *Gettysburgian*, February 11, 1943, pages 1, 4.
[138] "Army Calls 81 Today," *Gettysburgian*, February 11, 1943 (1,4).

process was conditional upon passing a second physical examination; upon passing, the inductee would receive two weeks' leave and be formally sworn in.[139]

When the inductee arrived at either Fort Meade or New Cumberland after the two weeks' leave, he would receive inoculations, be issued uniforms, and conduct an aptitude battery.[140] This could take anywhere from four to forty days, with the mean being nine days.[141] Once classified, the newly minted soldier would then be sent to a replacement training center based upon branch.[142]

After the seventeen-week training period, the infantryman, along with soldiers from other branches or combat arms, would conduct overseas movement through one of the ports of embarkation. In theory, although the replacement infantryman was less experienced in terms of working in a small unit, he was better conditioned on an individual basis.

Conversely, the lack of collective training meant that combat replacements were not only unaccustomed to their new units, but they also suffered, particularly without experienced leadership. This perfect storm of a lack of collective training and the heavy losses that the 28th Infantry Division suffered occurred just before a dramatic dip in the division's performance. For many replacements, it would prove deadly.

The *Hürtgenwald*

On October 27, 1944, the 28th Infantry Division relieved the 9th Infantry Division as part of a reshuffling of corps areas of responsibility.[143] Over the past month, all three corps in First

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[139] Guido Rossi, "A World War II Infantry Recruit's Journey Through Camp Shelby," n.d. The Army tended to find that if an inductee was not sworn in before receiving initial leave, the inductee would enlist in a different service. The Navy was singled out.
[140] Rossi, "A World War II Infantry Recruit's Journey".
[141] Ibid.
[142] "Shortage of Railroad Equipment" (1943): 261.
[143] Holt, "Operational Performance" (1994): 36. The divisional command post was established at Rott, Germany, see Bradbeer, "A Failure of Battle Command?" (2010): 25.

Army had suffered significant casualties, but in general the First Army was arranged with XIX Corps in the north (the left flank), VII Corps in the center, and V Corps in the south (the right flank).[144] The mission had been for the entire army to penetrate the Siegfried Line, but due to casualties, this had proven to be a difficult endeavor.[145]

The 9th Infantry Division had been assigned a mission to secure VII Corps' right flank on September 29 by capturing the village of Schmidt.[146] This had been deemed a key crossroads in the Hürtgen Forest, which itself was a potential stronghold for German forces.[147] Another division, 3rd Armored Division, had also entered the Hürtgen two weeks before the 9th Infantry Division, but had diverted to the north after its attack had stalled.[148]

The 9th Infantry Division's attack did not fare much better. By October 16, the 9th Infantry Division had suffered three casualties for every two yards it had advanced.[149] After an advance of less than two miles, its attack had stalled as well, with a cost of 4,500 casualties.[150] In addition to having to pull the 9th ID off of the line due to its unsustainable casualty rate, VII Corps had been assigned to a new offensive on the city of Cologne.[151] V Corps was therefore assigned to the Hürtgen. Since the only division available was the 28th ID, it was given the 9th ID's old objectives.[152]

Unfortunately for the 28th ID, there were several key issues that would ultimately hinder the division in combat. First, the German army had been able to achieve force concentration

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[144] Bradbeer, "A Failure of Battle Command?" (2010): 24.
[145] Ibid.
[146] Ibid.
[147] Ibid. Lieut. Gen. Hodges' decision to enter the Hürtgen Forest was possibly influenced by his service during the Meuse-Argonne campaign in World War I.
[148] Ibid.
[149] Ibid, see also Holt, "Operational Performance" (1994): 38.
[150] Ibid.
[151] Bradbeer, "A Failure of Battle Command?" (2010): 24.
[152] Ibid.

while in the defense.[153] This meant that the German army's natural advantage of being in the defense was amplified by shorter supply lines and effectively outnumbered a single division. In fact, between the 28th Infantry Division's anticipated attack date on October 31 and VII Corps' attack date of November 5, no other unit in Twelfth US Army Group would be on the offensive. This meant that the division was conducting a corps-level offensive by itself.[154]

Second, because the division was conducting a corps-level offensive by itself, that meant that combat power would be drawn away from the division's objective. In this case, this meant three separate attacks, each conducted by a reinforced RCT, rather than a division being committed against a single objective.[155] Additionally, though this likely had little impact on the final execution of the attack, the three objectives had been selected at the corps level, with Cota's only leeway being which RCT was assigned to each objective.[156]

Finally, the rough terrain amplified a poor judgement call on Cota's part. Cota declined to send out patrols to ascertain the German army's strength, instead relying on intelligence gathered from the 9th Infantry Division and by V Corps.[157] Further, this meant that Cota did not know if local roads could adequately serve as supply routes and would have to rely on combat engineers to improve these roads' condition.

The 28th Infantry Division ultimately was opposed by elements of four German divisions, all of which were relatively understrength but had an experienced cadre of officers and noncommissioned officers.[158] V Corps intelligence had only identified two, *89.* and *275.*

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[153] Ibid 25-26.
[154] Ibid 25.
[155] Ibid. While the division's main objective was Schmidt, Cota had to divert two RCTs to cover his left and right flanks.
[156] Ibid.
[157] Ibid.
[158] Ibid 26 and Holt, "Operational Performance" (1994): 38.

Infanteriedivision, while *272. Volksgrenadierdivision* and *116. Panzerdivision* remained unidentified.[159]

Although V Corps allocated a number of attached units to the 28th Infantry Division, Cota elected to use only some of these units. Notably, Cota only committed two companies from an attached armor battalion, while keeping the two attached tank destroyer battalions in reserve for the entire engagement.[160] This was partially a consequence of the attack's reliance on dirt roads and trails for supply routes, but on the other hand, the division had a habitual weakness when operating with attached tank or dank destroyer units.[161]

The general lack of support from any form of armor meant that only two RCTs, the 109th and 112th, had anything approaching success early on in the battle. The 109th managed a partial success, capturing the village of Hürtgen but failing to secure the crossroads in the vicinity of the village, while one of its battalions had blundered into a minefield.[162] By midday on November 1, the 112th RCT had captured Schmidt, but the RCT was strung out through three villages, without entrenching for the night.[163]

The 110th RCT's attack had gone extraordinarily poorly. With its 1st Battalion being held in divisional reserve, the rest of the RCT had its attack stalled almost directly at the line of departure.[164] Unfortunately for the rest of the division, the 110th RCT's bad luck was a harbinger for the whole division.

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[159] Holt, "Operational Performance" (1994): 38. *Volksgrenadier* units prioritized defensive weapons and economy of manpower.
[160] Bradbeer, "A Failure of Battle Command?" (2010): 27.
[161] Holt, "Operational Performance" (1994): 20. By contrast, the 28th ID's use of artillery was regarded as very good to excellent.
[162] Bradbeer, "A Failure of Battle Command?" (2010): 27-28.
[163] Ibid 28.
[164] Ibid.

On November 4, 3rd Battalion, 112th Infantry Regiment was routed and practically wiped out by elements of *116. Panzerdivision*.[165] The following day, 2nd Battalion of the same regiment was also routed after an intense artillery bombardment.[166] On November 7, Lieut. Col. Peterson, regiment commander of the 112th, was wounded and Maj. Ford, commanding 1st Battalion, 109th Infantry Regiment, was killed.[167] Offensive actions were cancelled, and what was left of the division was pulled back to rest areas in Luxembourg. The division and its attachments had suffered 6,184 casualties over the course of a week of fighting.[168] The 112th Infantry Regiment had lost two thirds of its total strength while every company-grade officer in the 110th Infantry Regiment had been wounded or killed.[169] One of the latter regiment's battalions was reduced to fifty-seven men.[170]

In terms of the extended training given to infantrymen, three extra weeks of training were squandered by poor terrain, dogged enemy resistance, a dogmatic operations order, and questionable decision-making at the divisional and corps level. Some successes were apparent—the 112th Infantry Regiment had taken Schmidt, an objective that had eluded the men of the 9th Infantry Division—but others, such as failing to dig in and establish defensive positions after an assault, were failures that outweighed them. Once again, the 28th ID would have to rebuild.

Battle of the Bulge-Buying Time Before the Siege of Bastogne and Defense of St. Vith

On December 14, 1944, Col. B.A. Dickson, senior intelligence officer of the First Army, received a debrief of a German-speaking Belgian civilian, who reported troop concentrations in

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[165] Ibid 30.
[166] Ibid 32-33.
[167] Ibid 35.
[168] Holt, "Operational Performance" (1994): 44.
[169] Bradbeer, "A Failure of Battle Command?" (2010): 36. Five of the division's nine infantry battalions were commanded by majors or by captains.
[170] Ibid.

the Eifel region, on the German/Belgian border.[171] The debrief also described a greater concentration of bridging equipment than usual.[172] To Dickson, this indicated that the Germans were about to execute an offensive. The report was dismissed as a hunch.

The 28th Infantry Division, meanwhile, had been reassigned to VII Corps under Maj. Gen. Joseph L. Collins. To their northeast was the green 106th Infantry Division, and to their south were the veteran 4th Infantry Division and 9th Armored Division.[173] The 28th ID was arrayed with the 112th Infantry Regiment on the northern (left) flank, the 110th Infantry Regiment was in the center, and the 109th Infantry Regiment on the southern (right) flank. The division was situated along a hard-surfaced highway dubbed "Skyline Drive", with the 110th defending the town of Clervaux in northern Luxembourg.

On December 16, the German attack caught the Allied armies off guard. The initial attack in the 28th ID's sector was conducted by *116. Panzerdivision*, along with other elements of the German *5. Panzerarmee*, and by the following day the German attack had succeeded in breaking through the 106th ID's lines and routing the latter division.[174] That meant that the northern flank of the 28th ID, held by the 112th Infantry Regiment, had to be lengthened in order to cover what was left of the 106th ID.[175]

In the center of the 28th ID's line, the 110th Infantry Regiment was practically destroyed yet again along with a reinforcing tank battalion. By 0930 hours on December 17, Col. Hurley Fuller, commander of the 110th, reported that his command post in Clervaux had been overrun,

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[171] Beevor, *Ardennes 1944* (2015): 104. Beevor contended that Dickson's warning was not taken seriously due to "an unfortunate knack of identifying German divisions in the west when their position had been confirmed on the eastern front".
[172] Ibid.
[173] Ibid 122. One of the members of the 106th ID was Kurt Vonnegut, later to gain fame as a novelist. See Ibid 186.
[174] Ibid 141. On the same day, elements of the 285th Field Artillery Observation Battalion were captured and executed by members of the Waffen-SS between Baugnez and Malmedy, Belgium. See Ibid 145.
[175] Ibid 152.

describing the situation by saying that a German tank was "sitting in his front door and firing in".[176] Additionally, the 110th was suffering from ammunition shortages.[177] By December 18, the remaining elements of the 110th withdrew from Clervaux, with COL Fuller and the remaining company surrendering only after running out of ammunition.[178] These survivors continued to fight delaying actions along the Clervaux-Bastogne highway, along with elements of the 9th Armored Division's Combat Command R.[179] The 110th's delaying action would prove critical for the 101st Airborne Division to arrive in and secure the town of Bastogne.

In the meantime, the 112th Infantry Regiment had joined with the 7th Armored Division, the 424th Infantry Regiment of the 106th ID, and Combat Command B of the 9th Armored Division in the defense of St. Vith. Over a 3-day period, this scratch team held the advance of the *LXVI. Armeekorps* to a standstill, albeit at an extremely heavy cost and the town of St. Vith no longer being a tenable defensive position.[180]

Although the Allied forces, including the 28th ID, were forced to give ground at a high cost in men and in materiel, the 28th ID's combat performance during the Battle of the Bulge dramatically increased vice the Battle of the Hürtgen Forest. In both battles, the impact of soldiers returning to active duty from wounds was negligible, meaning that the bulk of replacements in the division were completely inexperienced. Nonetheless, between the two campaigns, not enough time would have elapsed for there to be meaningful changes in the length or quality of replacement training.

Analysis of the 28th Infantry Division's Performance

[176] Ibid.
[177] Ibid.
[178] Ibid.
[179] Ibid. Combat commands were roughly analogous to RCTs in infantry divisions. Armored divisions had three assigned combat commands, lettered A, B, and R.
[180] Ibid 225.

By analyzing the 28th ID's performance in combat through its participation in the Battle of the Bulge, one might visualize the division's performance on a graph as having two distinct peaks and one distinct trough. The peaks generally coincided with the breakout from Normandy and the Falaise Pocket in late July and August 1944 as well as the division's delaying actions in the Battle of the Bulge, while the trough coincided with the division's participation in the Battle of the Hürtgen Forest. However, the division had finished its individual training phase before the lengthening of individual replacement training to seventeen weeks.

This would lead to the conclusion that individual training length was not a factor in the performance of large units. Rather, the performance of large units was predicated more upon collective training or integration, and in addition was heavily influenced by higher orders from divisional leadership, higher headquarters at the corps level, and the enemy's own resistance.

Figure 1: Infantry Replacement Training Centers, Replacement and Schools Command[181]

Replacement Center	Date Beginning Operation
Camp Croft, SC	March 9, 1942
Camp Roberts, CA	" " "
Camp Wheeler, GA	" " "
Camp Wolters, TX	" " "
Fort McClellan, AL *	January 1943
Camp Robinson, AR *	" " "
Camp Blanding, FL	August 4, 1943
Camp Fannin, TX **	September 1943
Camp Hood, TX	March 1944
Camp Gordon, GA	October 17, 1944
Camp Maxey, TX	" " "
Camp Howze, TX	October 18, 1944
Camp Livingston, LA	November 13, 1944
Camp Shelby, MS	February 12, 1945

* Converted from branch immaterial replacement centers

** Formed from combined assets of replacement centers marked *

Figure 2: Events and Standards for the Physical Efficiency Test Battery, Excellent Score Range[182]

Event	Repetitions or Time	Raw Score Range
Pullups	16-18	90-100
Situps	70-82	88-100
20 Seconds Burpees	12.75-13.75	88-100
Pushups	39-44	88-100
100 Yard Piggyback	0:20-0:18	88-100
300 Yard Run	0:38-0:35	85-100
Squat Jumps	61-72	86-100

[181] Lerwill, *The Personnel Replacement System* (1954), 267, see also Roger K. Spickelmier, "Training of the American Soldier During World War I and World War II," (master's thesis, United States Army Command and General Staff College, 1987), 93. Croft, Roberts, Wheeler, and Wolters were extant infantry replacement training centers at the outset of the conflict.

[182] "WD PAM 21-9" (1944): 79. Situps and pushups were to be completed consecutively; test candidates could not rest in the upright position.

Figure 3: Comparative Events and Standards for the Army Combat Fitness Test, Heavy Physical Requirements[183]

Event	Repetitions, Weight, Distance, or Time	Raw Score Range
3 Repetition Maximum Deadlift	200-340 lbs	70-100
Standing Power Throw	8-12.5 meters	" "
Hand-release Pushups	30-60	" "
Sprint-Drag-Carry Shuttle Run	2:10-1:33	" "
Leg Tucks	5-20	" "
2 Mile Run	18:00-13:30	" "

[183] "Army Combat Fitness Test Initial Operational Capability: 1 October 2019 to 30 September 2020" (Center for Initial Military Training: Fort Eustis, VA, 2019) 12. The pushup event was modified in the ACFT to include the hand release. Leg tucks replaced the situp event and must be completed consecutively.

Figure 4: 28th Infantry Division during the Liberation of Paris[184]

[184] *American Troops of the 28th Infantry Division March Down the Champs Elysees, Paris, in the "Victory" Parade*, August 29, 1944. Paris, France.

Figure 5: Shoulder Sleeve Insignia, 28th Infantry Division[185]

[185] US Army Institute of Heraldry, *28th Infantry Division Shoulder Sleeve Insignia*, 2 3/8" X 2 3/8".

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