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The U.S. Army and Amphibious Warfare During World War II

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For fifty years historians have written about World War II, but the U.S. Army's role in amphibious warfare remains a much neglected chapter in the history of the war and also of the American approach to joint and combined warfare.

A subject so vast and complex as the U.S. Army's role in amphibious warfare during World War II defies short and simplistic treatment. Thus, this article focuses mainly on the years from 1940 to 1943 when the foundations were laid for later success. These were difficult years of preparation, conflict, trial, and experimentation for the American armed forces. In the midst of a total global war, they struggled to mobilize the nation's human and industrial resources, make critical strategic decisions, hammer out policy and organizational compromises, and develop and integrate new weaponry and doctrines. In addition, they had to learn to work with each other and their allies to build a viable command structure for the planning and conduct of sophisticated joint and combined land, sea, and air operations.

In the months following the American entry into the war in December 1941 the Allied political and military leaders confronted an abysmal worldwide strategic situation. Only a beleaguered Great Britain and a battered Soviet Union held out against Nazi Germany in Europe. In North Africa, British and Commonwealth forces were hard pressed. The Japanese had swiftly flooded across the Far East and western Pacific, seizing Malaya, Burma, the Netherlands East Indies, and the Philippines, while threatening India and Australia. The Anglo-American strategy was to contain and then defeat the Axis Powers by weakening their ability to wage war through strategic air attack and naval blockade, defeating their armed

forces in field, liberating the occupied territories, and finally occupying Germany, Italy, and Japan. To do this, the Allied leaders adopted a global strategy of coordinated and complementary land, sea, and air campaigns in geographic theaters. Although at the outset the Allies lacked the means for serious amphibious operations anywhere, out of necessity such operations soon occupied a preeminent place in all of their strategic offensive planning.¹

In staff talks during 1940-41, British and American planners decided that Germany, the primary and most dangerous Axis power, had to be defeated first. With no continental ally to provide access and ports as France had in the First World War, the U.S. and British Armies would have to fight their way back onto the Continent before they could bring the German Army to decisive battle. Remembering their horrible losses in World War I, British planners favored nibbling operations on the periphery while blockade and air attack weakened the Germans. American planners, however, emphasized that the Germans had to be confronted directly to be beaten. The most direct route to Germany was through France, which meant a cross-Channel amphibious invasion on an unprecedented scale against a heavily defended shore.²

Against Japan, amphibious warfare was the only approach that could penetrate the far-flung defensive barrier that Japanese victories had built by early 1942 to protect the home islands. Whether in the Pacific or Europe, the U.S. Army would have to play a leading role in such joint and combined operations because the nation's principal, trained, peacetime amphibious force, the Marine Corps, was simply too small and could not be quickly expanded to undertake such huge responsibilities.³

Although the Army had a long history of joint amphibious operations with the Navy, its focus on land operations left it little time for studying landing operations during the interwar years.⁴ However, the Army had distinct responsibilities for landing operations, "joint

overseas expeditions," and joint war plans with the Navy under the Joint Army and Navy Board (Joint Board) that was established in 1903 to coordinate War and Navy Department planning and operations.⁵

With the publication of its *Joint Overseas Expeditions* in 1933 and then *Joint Action of the Army and the Navy* in 1935, the Joint Board laid out a coordinated approach to "joint overseas expeditions" and specific missions for the Army, Navy, and Marine Corps. For the Army these included "joint overseas movements" and "landing attacks against shore objectives."⁶

Joint Action was intended to secure "effective coordination" between the services, but it was beset with often vague and overlapping responsibilities between the sea and land forces. Nonetheless, it and the interservice workings of the Joint Board established sound foundations for the future development of joint war planning, command structures, and wartime operations, as well as for the establishment of the Joint Chiefs of Staff (JCS) after American entry into the war.⁷ The provisions of *Joint Action's* Chapter VI on joint overseas expeditions delineated many of the operational and tactical missions of the Army, Navy, and Marine Corps as well as of military and naval aviation.⁸ The basic doctrine for joint amphibious operations was thus largely set before the war, but the details of unified command would be resolved only during the war.⁹

The Joint Board's various interwar "color" joint basic war plans included potentially significant amphibious

missions for the Army. This was especially so for Joint Army and Navy Basic War Plan ORANGE for a war against Japan in the Pacific and Far East and the various RAINBOW plans that emerged beginning in 1939.¹⁰

During the 1930s, Army and Navy joint training problems had included coastal defense and amphibious landings, especially in Hawaii, and small Army units had participated in three fleet landing exercises with the Navy and Marine Corps.¹¹ The scale of the Army's involvement in amphibious planning and training barely reflected its potential responsibilities for such operations under existing war plans and doctrine as outlined in *Joint Action*.

By late 1939 the outbreak of the war in Europe reawakened the Army's interest in landing operations. The 3d Infantry Division at Fort Lewis, Washington, planned and conducted an amphibious training exercise of sorts with the Navy in January 1940 that culminated in a landing at Monterey, California. Both services performed poorly in the exercise and were highly critical of each other's efforts.¹² The training exercise caused the War Department openly to question the Navy's capacity and willingness "to prepare or train on an adequate scale for amphibious operations."¹³ Together with a growing realization of the possible dimensions of its own future role in amphibious warfare, this experience sparked the Army's growing dissatisfaction with what it perceived to be the Navy's lack of commitment to amphibious training and operations that would have serious consequences for



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interservice cooperation during the next few years.¹⁴

The sudden collapse of France and expulsion of British forces from the Continent in May-June 1940 shocked American political, military, and naval leaders and compelled a full revision of the Joint Board's RAINBOW war plans. In reevaluating its plans for a European conflict, the Army realized that it had to use large-scale amphibious operations to fight its way onto the Continent before it could decisively come to grips with the German Army. In late June 1940 the War Department mandated amphibious training for the 1st Infantry Division on the east coast and the 3d Infantry Division on the west coast.¹⁵ To counter Axis threats to the Western Hemisphere, the following October the War Department ordered the formation of three "emergency expeditionary forces." Task Force 1, with the 1st Infantry Division, began training for an assault landing mission in early 1941.¹⁶ With little relevant recent experience in opposed landing operations, the Army turned to the Navy and Marine Corps for usable tactical doctrine.

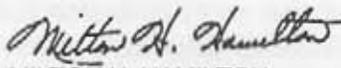
Between the world wars, the Marine Corps and Navy developed a concept of amphibious warfare centered on an island-hopping naval war against Japan in the Pacific as laid out in various iterations of War Plan ORANGE.¹⁷ The Marine Corps' ideas were contained in its *Tentative Manual for Landing Operations* (1934), which the Navy adopted for its current landing operations manual, Fleet Training Publication 167 (FTP 167), *Landing Operations Doctrine, United States Navy, 1938*.¹⁸ The Army largely borrowed the Navy's FTP 167 as its initial doctrinal publication on amphibious operations, Field Manual (FM) 31-5, *Landing Operations on Hostile Shores* (June 1941).¹⁹

The Army made scant progress in joint amphibious training in 1940-41, except to identify how very much remained to be done. In June and September 1941 two joint training forces, each composed of an Army and Marine division with a partly integrated joint staff under a Marine general officer, were established under Navy command in the Atlantic and Pacific Fleets. Joint Army-Navy training exercises in August 1941 and January 1942 only confirmed the joint amphibious force's lack of readiness for combat.²⁰ In February 1942 Admiral Ernest J. King, Commander in Chief, U.S. Fleet (COMINCH), tried to remedy these problems by converting the two training forces into amphibious forces and restructuring them to include covering forces, transports, and an Army-Marine amphibious corps.²¹ By this time the Army's General Headquarters (GHQ) had grown so dissatisfied with the progress of joint amphibious training that it asked the War Department for approval to establish

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Army amphibious training centers.²²

Although the prewar *Joint Action* gave the lead in amphibious operations to the Navy, the devastating losses suffered at Pearl Harbor and in the early Pacific campaigns and enormous global commitments forced it to focus mainly on rebuilding and expanding its major fleet combat elements—carriers, cruisers, battleships, and antisubmarine warfare vessels. Offensive joint amphibious operations received so little attention during the early months of 1942 that few cargo and troop transports or landing craft and boat crews were available for the training or operations of either the Army or Marine Corps. The Navy Department also restricted the growth of the fleet's amphibious elements by limiting the flow of personnel and the priorities assigned to landing craft production.²³

In his *Crusade in Europe*, Dwight D. Eisenhower, then chief of the War Department's Operations Division (OPD), summed up the Army's deepening frustration over this lack of preparation:

As early as February 1942 we were worrying about the production of landing craft. Landing craft are primarily designed for offensive operations; it was difficult to develop a widespread interest in them when everyone was desperately concerned with defense. . . . At the time, however, the Navy was thinking only in terms of restoring the fleet. They were not particularly interested in landing craft for future offensives. But if we didn't start building we would never attack.²⁴

This situation was critical to the Army because in both the U.S. Joint Chiefs of Staff and the Allied Combined Chiefs of Staff (CCS), General George C. Marshall, the Army Chief of Staff, and the War Department argued for an early invasion of Europe as part of the "Germany first" strategy. As finally approved in April 1942, this meant a quick buildup of American air and ground forces in the United Kingdom (BOLERO) with an emergency shore-to-shore cross-Channel invasion during 1942 (SLEDGEHAMMER) if a Soviet collapse appeared imminent and a more developed variant for 1943 (ROUNDUP).²⁵ Marshall and his key planners were greatly concerned about the deficiencies in landing craft, boat crews, and training and the lingering British reluctance to embrace these operations, both of which threatened the Army's basic strategic concept for the war in Europe.²⁶

When in March 1942 King, now Chief of Naval Operations (CNO) and COMINCH, could not commit the Navy to supporting such a cross-Channel undertaking with crews and boats, the Army offered to provide and

train the required boat crews for the landing craft to carry the invasion force if the Navy would provide the boats. The Navy agreed to this informally, but never in a formal JCS paper.²⁷ However, this decision soon initiated a major and continuing dialogue between the Army and Navy on the overall mission, organization, composition, and command of the amphibious corps assigned to the Amphibious Forces of the Atlantic and Pacific Fleets and on the prospective roles of amphibious forces in U.S. and Allied strategy.²⁸ By early June Army planners thought they had a tentative agreement that put shore-to-shore cross-Channel operations under Army control with the Navy furnishing landing craft and instructors. Ship-to-shore training and operations remained a Navy responsibility. New amphibious corps would be formed for the Central and South Pacific and Southwest Pacific Area (SWPA) in 1942 as the offensive forces for those theaters.²⁹

By late June, however, the Navy decided that the lack of landing craft, shipping, and Army combat divisions precluded any cross-Channel attack until at least 1943. That would give the Navy sufficient time to build landing craft and train boat crews, so the Navy ordered Rear Adm. H. Kent Hewitt, then commanding the Amphibious Force, Atlantic Fleet, to assume this training mission immediately. As a result, over the summer the Navy repeatedly postponed signing the tentative agreement with the Army until the decision for TORCH rendered the shore-to-shore provisions moot.³⁰ When the final JCS paper (JCS 81/1) was signed early in September 1942, it made no mention of the Army's shore-to-shore operations and concluded:

Amphibious operations are essentially the responsibility of the Navy. Until such time as the Marine Corps can be expanded to fulfill necessary requirements for present and projected strategy, it is recognized that selected Army units must be made available for training and participation in amphibious operations.³¹

Even the exact meaning and consequences of this paper were open to question, and further discussions dragged on into early 1943 before any final compromise agreement could be reached. As the Navy maneuvered itself back into full control of its role in amphibious warfare, this festering impasse adversely affected the Army's planning and preparation for amphibious operations. Out of a sense of frustration and urgency, throughout 1942 and into 1943 the Army pursued two separate amphibious training programs—one for ship-to-shore operations with the Navy and the other for shore-to-shore operations on its own.³²

For ship-to-shore operations, the amphibious corps were the principal battleground. Here the initial discussions foundered on fundamental differences between the Army and the Navy and Marine Corps over the organization and role of the Army divisions in assault landings.³³ The Navy and Marine Corps wanted specialized Army light divisions that would be tailored for and used only in amphibious operations. The Army Ground Forces (AGF), which replaced GHQ with the March 1942 War Department reorganization, were adamant that all Army divisions be standardized for large-scale land operations and not specialized for limited missions.³⁴ This disagreement further hardened the Army's view on the Navy's disinterest in amphibious operations as well as its own fundamental differences with the Marine Corps on amphibious organization and doctrine.³⁵

In this area, as in many others, an underlying cause for Army-Navy friction was the absence of a unified national defense strategy and command structure, something the Joint Board could not provide in the prewar years and which was only then being worked out following the establishment of the Joint Chiefs of Staff and an integrated joint staff. The Army and the Navy/Marine Corps concepts of amphibious operations differed substantially because of the services' fundamentally different missions and organization. To the Army amphibious operations were invasions, attacks with unlimited objectives, and the necessary first step in a long and arduous land campaign with huge logistical requirements. To the Navy and Marine Corps they were seizures of specific, limited objectives, usually islands or island groups, that could become advance bases for a continuing naval campaign.³⁶ Hence, in amphibious operations Army planners always had operational and logistical considerations that were far beyond the concerns of the Navy or the capabilities of the marines.

In a 9 April 1942 memorandum that he drafted for Marshall to send to King, Eisenhower clearly delineated the differences between the services on amphibious forces and the differing operational requirements in the Atlantic and Pacific:

In the Atlantic we may become involved in a cross-channel effort, with the consequent need for landing equipment designed especially for that purpose. Moreover any amphibious operations will probably be merely the spearhead of a prolonged, heavy, land operation. This is the type of task for which Army divisional and higher organization is definitely pointed. . . . In the Pacific, offensive operations for the next year or more promise to comprise a series of landing operations from shipboard to

small islands with relatively minor forces. This is the type of amphibious warfare for which the Marines have apparently been specially organized.³⁷

On 20 March 1942, shortly after the Navy first agreed to the Army's new amphibious role, the War Department directed the Army Ground Forces to train twelve divisions for shore-to-shore amphibious operations. The AGF was to develop doctrine, train tactical units, and handle "all phases of the operations of Army units involved in embarking troops and equipment in small boats on land, the approach to and landing on a hostile beach, the establishment of a beachhead, and the preparation and initiation of an attack inland."³⁸

At the same time, the War Department charged the Services of Supply (SOS) with "the organization, training, supply and equipment of boat operating and maintenance units, the operation of transportation facilities for landing operations, and for the equipment and training of shore parties." SOS directed the Corps of Engineers to establish an amphibious command to organize and train engineer units that would in turn train with the tactical units, operate landing craft in shore-to-shore combat operations, and direct the shore parties to handle the logistical lifelines over the beaches.³⁹ This was a natural choice because the engineers handled all of the Army's river crossing operations and also had extensive experience with small boats in its peacetime civil works functions on the nation's harbors and inland waterways.

In June 1942 the chief of engineers established the Engineer Amphibian Command (EAC) at Camp Edwards, Massachusetts, alongside the AGF's newly established Amphibious Training Command (ATC). The EAC was to organize and train the eighteen engineer boat operating regiments, seven engineer boat maintenance battalions, and all supporting units.⁴⁰ The engineers were limited to only 36-foot LCVs (Landing Craft, Vehicle) and 50-foot LCMs (Landing Craft, Mechanized), even though they questioned the use of such small boats in the English Channel. Limited production meant few of these boats were even available during the summer for training the amphibian units which were then to train six of the proposed twelve assault divisions at Camp Edwards before moving to Carrabelle, Florida, where year-round training could be conducted. With insufficient landing craft and crews, any meaningful training was hard to achieve. Frequent changes in force structure and missions, uncertainty about the Army's long-term role in amphibious training, inadequate facilities, lack of landing craft, and the continuing conflict between the Army commands over missions, functions, and resources

throughout the summer only exacerbated the already considerable problems confronting this part of the Army's struggling amphibious training program.⁴¹

After analyzing their mission, Brig. Gen. Daniel C. Noce, EAC commander, and Col. Arthur G. Trudeau, his chief of staff, realized that they lacked an adequate shore party structure. Shore-to-shore operations required an Army organization that combined the functions of a Navy beach party and a Marine shore party but did not lose unity of command at the waterline. Hence, they created the engineer shore regiment of three battalions to operate on both the near and far shores.⁴² This regiment was then integrated with the existing boat regiment and service units to create an engineer amphibian brigade (renamed engineer special brigade in 1943) of one boat and one shore regiment, each with three battalions, that could lift and then support one division. A boat and shore battalion together could support a regimental combat team (RCT), with individual boat and shore companies supporting the combat battalions. With its assigned quartermaster, ordnance, medical, and signal units, an EAB numbered 363 officers, 21 warrant officers, 6,898 men, and 180 LCVPs (Landing Craft, Vehicle and Personnel) and LCMs.⁴³

Experience during the summer of 1942 at Cape Cod resulted in significant refinements in doctrine, tactics, and organization as well as numerous improvements in landing craft, navigation and communications equipment, beach clearance and crossing techniques and equipment, and shore operations. Considerable effort was devoted to developing efficient organization and procedures for shore operations, which the EAC knew would be critical to the success of any landing. Although refined through later combat experience, the basic shore operating structure and procedures developed by the Engineer Amphibian Command were subsequently used by the engineer special brigades and the specially trained engineer combat units that supported all of the Army's wartime amphibious operations.⁴⁴ New techniques and equipment, especially Marine Corps' Landing Vehicle, Tracked (LVT), and the Army's amphibious truck, the DUKW, were tested and adopted for a variety of assault and support operations. Both vehicles saw extensive service in most later amphibious operations and proved extremely valuable to both the Army and Marine Corps.⁴⁵

The summer's training indicated that separate boat and shore battalions normally supported one RCT. Thus, EAC reorganized the 2d EAB into three amphibian regiments, later renamed engineer boat and shore regiments (EBSRs), each with a boat and shore battalion. This structure was much more flexible, aligned better

with the triangular division's three RCTs, and allowed the regiments to operate independently with RCTs or task forces.⁴⁶ Even as the EAC was struggling through the difficult summer of 1942, decisions were being taken that would radically alter its future.

Neither the U.S. Navy nor the British ever really liked Marshall's concept for the cross-Channel attack for 1942 or 1943. As for the U.S. Navy, King saw its future in the Pacific where it could largely control operations and not in Europe where it couldn't.⁴⁷ The British Prime Minister, Winston S. Churchill, and his military and naval leaders preferred an easier nut to crack, namely the Mediterranean and Italy, and more and better landing craft before trying a direct attack against the tougher Channel coast and the Germans. Even after they accepted the cross-Channel plan, the British campaigned to replace it with an early invasion of North Africa, Operations GYMNAST or SUPER-GYMNAST.⁴⁸

The British, moreover, emphasized that the smaller landing craft (LCVs and LCMs) that the Navy had developed for ship-to-shore operations and that the Army intended to use would have great difficulty in the rough waters of the Channel. They wanted larger landing craft that could handle the Channel and could also get to the theater of operations on their own rather than take up valuable shipping space. Hence, new generations of larger shore-to-shore landing craft were designed and built—the Landing Ship, Tank (LST), Landing Craft, Tank (LCT), and Landing Craft, Infantry (Large) [LCI(L)]. These landing craft altered the nature of amphibious operations when they reached the Allied fleets in meaningful numbers from late 1942 on, but their production was not a high priority for the Navy during most of 1942.⁴⁹

In May-June 1942 the Navy changed course from refusing to accept responsibility for amphibious training and operations for the cross-Channel attack to demanding its rightful place in charge of them in accordance with *Joint Action*. Ongoing changes in Allied strategic planning and continuing Army-Navy discussions of amphibious operations certainly helped shape this reversal, as did the Navy's aforementioned doubts about the likelihood of any cross-Channel attack. However, this change was also heavily influenced by conversations between Lord Louis Mountbatten, commander of the British Combined Operations Headquarters (COHQ) who was sent to talk the U.S. leaders into the North African venture, and King during the Anglo-American meetings in Washington and Hyde Park, New York, in June 1942.⁵⁰

After discussions with Marshall and King on SLEDGEHAMMER-ROUNDUP, Mountbatten met separately with

King and personally warned him not to allow the U.S. Army to operate the landing craft in any cross-Channel attack. "You are selling the birthright of the Navy. We can't stop the invasion of Europe," Mountbatten told King. If the Navy allowed the Army to carry out these operations, Mountbatten continued, and "the Army puts itself ashore, ... in the long run you don't need a Navy."⁵¹ The very next day King ordered Hewitt to London for orientation on amphibious operations with Mountbatten's Combined Operations Headquarters. Upon his return, Hewitt took over training the amphibious corps and planning the Navy's part in SLEDGEHAMMER-ROUNDUP amphibious operations.⁵²

The Navy's change was also reflected in its position on the command structure for SLEDGEHAMMER-ROUNDUP. King and Marshall agreed in May 1942 that U.S. land and sea forces would come under the Army in accordance with unity of command provisions of *Joint Action* when the Army's European Theater of Operations (ETOUSA or ETO) was established.⁵³ Lt. Gen. Dwight D. Eisenhower, the newly designated U.S. theater and Army commander, upon his arrival in London in late June affirmed a unified command for amphibious training and operations against the Continent based on the King-Marshall agreement.⁵⁴ First established as the Advanced Group of Hewitt's Amphibious Force, Atlantic Fleet, this command soon became the ETO's Maritime Command and in October the Amphibious Force, Europe, which remained in charge of U.S. naval planning for the cross-Channel attack even as Allied naval forces prepared for TORCH.⁵⁵

When the cross-Channel invasion (SLEDGEHAMMER-ROUNDUP) gave way to Operation TORCH against French North Africa in July, the Army's entire amphibious program was thrown into question. From a shore-to-shore operation in Army-manned boats under Army command, the amphibious emphasis in Europe shifted to ship-to-shore operations, which were the Navy's realm. Combined with Eisenhower's theater policy based on the King-Marshall agreement and *Joint Action*, this meant that the U.S. Navy in Europe now controlled all ship-to-shore and shore-to-shore operations and the Army all shore operations. When the 1st Engineer Amphibian Brigade arrived in the United Kingdom in August, it was assigned to the Navy's Maritime Command. With the postponement on the cross-Channel operation, the brigade was soon assigned to TORCH, stripped of its boat regiment, and limited to shore operations.⁵⁶

The Army's focus now shifted abruptly to the Amphibious Corps of the Atlantic Fleet's Amphibious Force, its principal training force in the United States for ship-to-

shore amphibious operations. With the 1st Marine Division's move to the Pacific, this corps was all Army—the 3d and 9th Infantry and 2d Armored Divisions. The corps was soon designated the Western Task Force, the Army component of a United States joint expeditionary force for TORCH, under command of Maj. Gen. George S. Patton, Jr.⁵⁷ In the United Kingdom, the 1st and 34th Infantry and 1st Armored Divisions, the only Army divisions with amphibious training then outside the United States, prepared for their landing operations with the 1st Engineer Amphibian Brigade and the Royal Navy.⁵⁸

Operating under guidance from the JCS, the War Department, and Eisenhower's newly established Allied Forces Headquarters (AFHQ), Patton would plan and command the landings and operations of American ground forces in French Morocco while Hewitt, commanding the Western Naval Task Force, headed naval planning and operations. Although the planning was done separately, Patton and the War Department tacitly accepted unity of command under Hewitt from after the convoy sailed until the ground forces had established themselves ashore.⁵⁹ Eisenhower's policy on unity of command and its partial extension to the Western Task Force were major steps toward resolving the troubling question of command of joint amphibious operations and the transition from naval to land commander.⁶⁰

In Europe and the Mediterranean from TORCH on, joint amphibious assault forces came under naval command until lodgments were successful, at which time command transferred to the ground commanders.⁶¹ With some theater variations, Eisenhower's approach became standard for most of the Army's wartime joint amphibious operations and was also similar to the unified command arrangements for U.S. joint operations approved by the JCS in April 1943.⁶²

By September 1942, the EAC's once bright future had quickly faded. Decisions at the joint and combined levels on TORCH resulted in cutting the planned eighteen engineer regiments to eight engineer amphibian brigades and then to three operational and two reserve brigades.⁶³ When the 1st Brigade went to England, the 2d Brigade then became the training brigade with the AGF's Amphibious Training Command. But its future and that of the 3d Brigade, whose full activation was placed on hold, were now bleak indeed as many of their trained amphibian personnel were siphoned off as cadres for the shore engineer units (36th and 540th Engineer Regiments) that would support Patton's TORCH landings.⁶⁴

Just as the situation appeared lost altogether, Col. Arthur G. Trudeau, the EAC's chief of staff, learned that General Douglas MacArthur's Southwest Pacific Area

(SWPA) lacked the landing craft and amphibious forces to sustain any offensive operations. He quickly saw a future for the amphibian brigades and approached the Services of Supply and the War Department's Operations Division with a plan to send the brigades to MacArthur. Within weeks the Army and Joint Chiefs agreed to deploy the 2d, 3d, and 4th EABs to SWPA along with a complete landing craft assembly unit and plant.⁶⁵ In November 1942, the 2d Engineer Amphibian Brigade was ordered to Australia where it arrived early in 1943. MacArthur enthusiastically welcomed these units because their small craft were ideally suited for moving men, equipment, and supplies in the shallow coastal and island-studded waters in his theater.⁶⁶ This was especially true along the north coast of Papua-New Guinea where the Navy had feared to go because of Japanese land-based aviation at Rabaul on New Britain.⁶⁷ These actions so significantly increased the Navy's interest in providing amphibious support to MacArthur that in December 1942, after several months of delay, it hastily created the 7th Amphibious Force under Admiral Dan Barbey.⁶⁸

The year-long tug-of-war between the Army and Navy and within the Army itself over organization, planning, and training for amphibious operations finally ended in February and March 1943. Although many wrinkles remained to be ironed out, the TORCH landings in November 1942 had clearly demonstrated that the Army and Navy could successfully plan and conduct a large joint and combined amphibious operation under unified command.⁶⁹ Moreover, the long and often acrimonious discussions on amphibious training and operations between the Army and the Navy and Marine Corps had eventually produced a basic understanding on respective roles and missions, organization, doctrine, and command that generally worked well during the rest of the war.⁷⁰ Marshall agreed that the Navy would take over all amphibious training in return for its support for the Army's future operations.⁷¹ However, implementation of this agreement was subject to the decision of the U.S. overseas theater commanders, who controlled the organization and training of the joint forces assigned to them.

Now convinced of the importance of the Army's amphibian brigades, MacArthur objected to altering the plans for training and deploying the 3d and 4th EABs that were scheduled to join the 2d EAB.⁷² While accepting MacArthur's demand, the framers of March 1943 Army-Navy agreement on amphibious training agreed to close the Army's Amphibious Training Command soon. The Engineer Amphibian Command would disband in early 1944 after the 4th Special Brigade shipped out and elements of the 5th and 6th Special Brigades were trained

for the invasion of France and sent to England.⁷³

From June 1943 on, the three engineer special brigades and 7th Amphibious Force underpinned MacArthur's strategy in the Southwest Pacific using the 800 LCVPs and 2,000 LCMs churned out by the engineer boat assembly plants in Australia and New Guinea. The brigades conducted 36 major and 344 secondary shore-to-shore and ship-to-shore operations and made 148 combat landings in carrying Army, Marine Corps, and Australian Army assault forces from Nassau Bay, New Guinea, to Lingayen Gulf, Luzon, in the Philippines and on to the East Indies. Retaining their original boat and shore organization, these brigades employed Army amphibious doctrine and operated both under Army command and with the Navy's 7th Amphibious Force. Their operations were an exacting and successful test of the Army's original 1942 concept of amphibious warfare based on integrated boat and shore operations under Army command.⁷⁴

In addition to their combat operations, these units also handled many of the theater's logistical lifelines, carrying 4.5 million passengers and 3 million tons of supplies while covering over 7.75 million miles.⁷⁵ The shore battalions also did much of the construction that sustained the air and ground combat forces and provided the logistical infrastructure for their operations.

MacArthur wrote to General Marshall on 19 March 1945:

In the succession of amphibious operations up the coast of New Guinea to Morotai, thence to the Philippines, the performance of the 2d, 3d and 4th Engineer Special Brigades has been outstanding. The soundness of the decision in 1942 to form organizations of this type has been borne out in all action in which they have participated. These units have contributed much to the rapid and successful prosecution of the war in the Southwest Pacific Area.⁷⁶

The Army's role in amphibious operations during World War II was large and critical, but it remains little known and studied today. U.S. Army forces participated either in the assault or support phases in 58 of 61 wartime U.S. amphibious operations. In the Pacific theaters, the Army and Navy conducted 39 major amphibious operations involving a regimental combat team (RCT) or larger unit. The Army also took part with the Navy and Marine Corps in six major assault operations and supported seven others.⁷⁷

In Europe and the Mediterranean, together with Allied forces the U.S. Army and Navy were responsible

for all six of the largest amphibious operations ever conducted—North Africa, Sicily, Salerno, Anzio, Normandy, and southern France. Among these was the largest and most complex joint and combined amphibious operation ever undertaken, Operation OVERLORD, on 6 June 1944. Clearing the way across the beaches for the U.S. assault forces and then supplying them once the beachhead was established were the 1st, 5th, and 6th Engineer Special Brigades. Once it was finished in Europe, the 1st ESB was shipped to the Pacific where it handled the shore operations during the Okinawa campaign and was readying for the invasion of Japan with the three other special brigades when the war ended.⁷⁸ The EAC had indeed accomplished its original mission, and much more.

The early years of American involvement in World War II were difficult years of preparation, adjustment, conflict, and compromise for the U.S. armed forces. In the midst of a total global war, they had to learn to work with each other and their allies to plan and conduct sophisticated joint and combined land, sea, and air operations on an unprecedented scale. Although a trying experience, the Army's compromise with the Navy on policy, doctrine, and organization for amphibious warfare contributed importantly to the shaping of its wartime relationship with the U.S. Navy, the development of overall Allied strategy, and the conduct of the war against the Axis. These wartime experiences also significantly influenced the development of postwar U.S. joint and

combined warfare doctrine and organization as well as the Army's role therein.

In his *Third Official Report* of December 1945 to the Secretary of the Navy Fleet Admiral King clearly outlined the importance of this joint wartime experience:

The outstanding development of this war, in the field of joint undertakings, was the perfection of amphibious operations, the most difficult of all operations in modern warfare. Our success in all such operations, from Normandy to Okinawa, involved huge quantities of specialized equipment, exhaustive study and planning, and thorough training as well as complete integration of all forces, under unified command. . . . Integration and unification characterized every amphibious operation of the war and all were successful.⁷⁹

The author hopes that this present study will spur a renewed study of the U.S. Army's critical and complex role at the policy and operational levels in these joint and combined amphibious operations, for there is much yet to be learned that would benefit today's military leaders and historians.

Dr. John T. Greenwood, Director of Field and International Programs at the Center, is working on a book about the Army's role in amphibious warfare during World War II.

Notes

1. Maurice Matloff and Edwin M. Snell, *Strategic Planning for Coalition Warfare: 1941-1942* (Washington, D.C.: U.S. Army Center of Military History [Hereafter CMH], 1953), passim; Col. A. T. Mason, USMC, JCS Special Monograph on Amphibious Warfare (unpublished draft), ch. 2, "Domestic Affairs—1942: ARCADIA, Organization and Training, Ships and Craft," pp. 11, 29ff, File HRC 451.94 "Amphibious Warfare Before WW II," in Historical Resources Branch, CMH, Washington, D.C.; ABC-4/CS-1, Memorandum by the U.S. and British Chiefs of Staff, "American-British Strategy," 31 Dec 41, in J.R.M. Butler, *Grand Strategy*, vol. 2, pt. 2: June 1941-August 1942 (London: HMSO, 1964), pp. 669-72.

2. Samuel Eliot Morison, *History of U.S. Naval Operations in World War II*, vol. 1: *The Battle of the Atlantic, September 1939-May 1943* (Boston: Little, Brown and Company, 1964), pp. 4-14; Mason, ch. 4, "Amphibious

Planning—1942: I, Abortive Attempts: GYMNAST, Dakar, Cross-Channel Invasion," pp. 24-48; Memorandum, G.C. Marshall, "Operations in Western Europe," in Butler, pp. 675-81; General Albert C. Wedemeyer, *Wedemeyer Reports!* (New York: Henry Holt & Company, 1958), pp. 129-46. An Army planner, Wedemeyer accompanied General Marshall to London in April 1942 and then participated in many of the key meetings on the cross-Channel invasion throughout the summer of 1942.

3. Jeter A. Isely and Philip A. Crowl, *The United States Marines and Amphibious War: Its Theory, and Its Practice in the Pacific* (Princeton, N.J.: Princeton University Press, 1951), pp. 14-71, passim; Lt. Col. Kenneth J. Clifford, USMCR, *Progress and Purpose: A Developmental History of the United States Marine Corps 1900-1970* (Washington, D.C.: History and Museums Division, Headquarters, U.S. Marine Corps, 1973), pp. 25-60, passim.

4. Contrary to the contentions of many authorities, especially Isely and Crowl, the U.S. Army did not entirely neglect the study of amphibious operations during the interwar years. At both the Army War College and Command and General Staff School, landing operations were studied, but the course time devoted was relatively small. Col. Henry G. Gole, U.S. Army, Retired, has done extensive research in Army War College records which reveals that the students and faculty at the Army War College during the 1930s did extensive work on planning for Allied coalition warfare. Their work eventually shaped much of the American thinking that went into the prewar RAINBOW war plans as well as Allied wartime strategy. See Henry G. Gole, "War Planning at the U.S. Army War College, 1934-40, The Road to RAINBOW," *Army History* 25 (Winter 1993): 13-28. The War Plans Division of the War Department General Staff was also deeply involved in planning landing operations as part of its ongoing duties. Individual Army officers also attended the Naval War College, where the study of landing operations was much more intense. Moreover, officers devoted much of their own time to professional development, which often included the study of military history. While assigned to the Hawaiian Department in the mid-1930s, Col. George S. Patton, Jr., reviewed the defense of the islands and their vulnerability to Japanese seaborne attack. This led him to research the Gallipoli campaign of 1915 and amphibious operations in general, from which he drew numerous lessons on the planning and conduct of such operations that can be found in his 128-page study of the Gallipoli operation, completed in August 1936. From this work Patton gained the reputation as one of the Army's experts on amphibious operations, which later helped land him the job as commander of the Western Task Force in Operation TORCH. This knowledge was subsequently put to good use in TORCH and then in the invasion of Sicily, Operation HUSKY. See G.S. Patton, Jr., "The Defense of Gallipoli: A General Staff Study," 1936, in the Patton Papers, Library of Congress, copy in the Patton Collection, Special Collections, U.S. Military Academy Library, West Point, N.Y.; see also Martin Blumenson, *The Patton Papers, 1885-1940*, vol. 2 (Boston: Houghton Mifflin, 1972), pp. 997-1001.

5. Vernon E. Davis, *The History of the Joint Chiefs of Staff in World War II: Organizational Development*, vol. 1: *Origin of the Joint and Combined Chiefs of Staff* (Washington, D.C.: Historical Division, JCS, 1972), pp. 5-6, 22-26.

6. The Joint Board, *Joint Action of the Army and the Navy*, JB no. 350 (Washington, D.C.: Government Print-

ing Office, 1935). See especially ch. 6, "Joint Overseas Expeditions," pp. 69-112, which largely reprinted the previously published *Joint Overseas Expeditions*. Copy in the CMH Library, Washington, D.C. Vice Adm. George C. Dyer, USN (Ret.), *The Amphibians Came to Conquer: The Story of Admiral Richmond Kelly Turner* (Washington, D.C.: Department of the Navy, 1971), pp. 213-14; Mason, ch. 1, "Amphibious Warfare before World War II," pp. 16-23, File HRC 451.94 "Amphibious Warfare Before WW II," in Historical Records Branch, CMH.

7. Davis, vol. 1, pp. 25-26.

8. Mason, ch. 1, pp. 16-25.

9. Davis, vol. 1, passim; Mason, ch. 3, "More Domestic Affairs—Command," pp. 1-15; Mason, ch. 1, pp. 44-53, 70-72. The provisions of *Joint Action* concerning command of joint Army-Navy operations specified either coordination through "unity of command" or "limited unity of command," with command vested in the service with "paramount interest." The president could also direct "unity of command" in the operation. Moreover, numerous caveats, especially in chapter 1, para 4c, prevented one service from infringing on the basic interests, functions, and operations of the other. In Change 2 of 1938, coordination was altered to place preference on coordination through "mutual cooperation," with "unity of command" as the alternate method. In fact, mutual cooperation resulted in little coordination or cooperation. It was judged to be responsible for much of the lack of Army-Navy coordination in Hawaii that played such a prominent role in the success of the Japanese attack on Pearl Harbor. Mutual cooperation was quickly scrapped thereafter and replaced with unity of command in major continental defense and overseas commands. See *Joint Action* (1935), ch. 2, "The Principles Governing Coordination of Operations of the Army and of the Navy," pp. 5-10; Change 2 to JCA, ch. 2, 30 Nov 38; Stetson Conn, Rose Engelman, and Bryon Fairchild, *Guarding the United States and Its Outposts* (Washington, D.C.: CMH, 1964), pp. 21-22, 161-73, 203-06.

10. Mark S. Skinner, *Chief of Staff: Prewar Plans and Preparations* (Washington, D.C.: CMH, 1950), pp. 92-94, 103-04; Louis Morton, "War Plan ORANGE: Evolution of a Strategy," *World Politics* 11, no. 2 (January 1959): 221-50; Edward S. Miller, *War Plan ORANGE: The U.S. Strategy to Defeat Japan, 1897-1945* (Annapolis, Md.: Naval Institute Press, 1991), passim; Mason, ch. 1, pp. 26-43, 64-74. Miller's book appeared without benefit of Henry Gole's recent work on the important war planning during the prewar years in the Army War College that is noted in footnote 4 above.

11. Isely and Crowl, pp. 14-71, passim; Mason, ch. 1, pp. 54-63.
12. Kent Roberts Greenfield, Robert R. Palmer, and Bell I. Wiley, *The Organization of Ground Combat Troops* (Washington, D.C.: Historical Division, U.S. Army, 1947), pp. 87-91; Mason, ch. 1, pp. 70-72.
13. Mason, ch. 1, p. 72.
14. Ibid.
15. Richard M. Leighton and Robert W. Coakley, *Global Logistics and Strategy, 1940-1943* (Washington, D.C.: CMH, 1955), pp. 60-65; Mason, ch. 1, pp. 26-43, 64-74, 76.
16. Greenfield, pp. 85-86.
17. Kenneth J. Clifford, *Amphibious Warfare Development in Britain and America from 1920-1950* (Laurens, N.Y.: Edgewood, Inc.); Clifford, *Progress and Purpose*, pp. 25-60, passim [All other references hereafter to Clifford are to *Progress and Purpose*]; Isely and Crowl, pp. 14-71; Miller, passim.
18. Office of Naval Operations, Division of Fleet Training, FTP 167, *Landing Operations Doctrine, United States Navy, 1938* (Washington, D.C.: Government Printing Office, 1938); Isely and Crowl, pp. 36-44; Mason, ch. 1, pp. 9-16.
19. U.S. Army, FM 31-5, *Landing Operations on Hostile Shores* (2 June 1941), Washington, D.C.: 1942; Mason, ch. 1, pp. 13-16; Isely and Crowl, p. 63; FTP 167, *Landing Operations Doctrine, United States Navy, 1938*. The Navy's FTP 167 was developed by the Marine Corps schools with Navy participation based on their common experience and landing exercises during the 1920s and early 1930s and the Marine Corps' extensive work on amphibious doctrine. When the Army issued a completely revised FM 31-5 in November 1944, it was based primarily on the Army's experience in planning and conducting numerous large amphibious operations during the war.
20. Mason, ch. 1, pp. 81-91; Greenfield, pp. 87-91.
21. Dyer, vol. 1, p. 215.
22. Greenfield, pp. 87-92; Blanche D. Coll, Jean E. Keith, and Herbert H. Rosenthal, *The Corps of Engineers: Troops and Equipment* (Washington, D.C.: CMH, 1958), p. 358; Capt Albert C. Garland, USA, "Amphibious Doctrine and Training," Army Ground Forces Demobilization Study no. 6, pp. 8-13, in CMH Library; Leighton and Coakley, pp. 64-68; Mason, ch. 1, pp. 64-91.
23. Mason, ch. 2, "Domestic Affairs—1942: ARCADIA, Organization and Training, Ships and Craft," pp. 11, 29ff; Mason, ch. 3, p. 7; Dyer, vol. 1, p. 215.
24. Dwight D. Eisenhower, *Crusade in Europe* (Garden City, New York: Doubleday & Company, Inc., 1948), p. 51.
25. Forrest C. Pogue, *George C. Marshall: Ordeal and Hope, 1939-1942* (New York: The Viking Press, 1966), pp. 302-20; Gordon A. Harrison, *Cross-Channel Attack* (Washington, D.C.: CMH, 1951), passim; Maurice Matloff and Edwin M. Snell, *Strategic Planning for Coalition Warfare: 1941-1942* (Washington, D.C.: CMH, 1953), passim; Mason, ch. 4, "Amphibious Planning—1942: I, Abortive Attempts: GYMNAST, Dakar, Cross-Channel Invasion," pp. 24-48; Memorandum, G. C. Marshall, "Operations in Western Europe," in J.R.M. Butler, *Grand Strategy*, vol. 3, pt. 2: June 1941-August 1942 (London: HMSO, 1964), pp. 675-81; Eisenhower, pp. 38-39, 42-52, 68-73; Wedemeyer, pp. 129-46.
26. Samuel Eliot Morison, *History of U.S. Naval Operations in World War II*, vol. 2, *Operations in North African Waters, October 1942-June 1943* (Boston: Little, Brown and Company, 1947), passim; Coll, p. 360; Eisenhower, pp. 38-39, 45-48, 66-73; Wedemeyer, pp. 129-46.
27. Capt. Marshall O. Becker, The Amphibious Training Center, Army Ground Forces Historical Study no. 22, Washington, D.C.: Historical Section, AGF, 1946, pp. 3, 5-7, in CMH Library; Coll, pp. 358-61; Memo, Brig Gen H. R. Bull, AC of S, G-3, War Department, to CGs, AGF, SOS, and AAF, sub: Organization and Training of Amphibious Forces, 9 May 42, and Ltr, TAG to CGs, AGF and SOS, sub: Responsibility for Amphibious Training, 22 May 42, in EAC Research Notes, Research Collections, Office of History, U.S. Army Corps of Engineers, Fort Belvoir, Virginia (hereafter CEHO).
28. Mason, ch. 2, pp. 11-46.
29. Coll, p. 361; Mason, ch. 2, pp. 11-46.
30. Coll, pp. 378-79; Mason, ch. 2, pp. 30-44.
31. JCS 81/1, Distribution and Composition of U.S. Amphibious Forces, 5 Sep 42, as quoted in Coll, p. 378; Coll, p. 376; Mason, ch. 2, pp. 37-44.
32. Coll, pp. 376-79, 386; Mason, ch. 2, passim.
33. Mason, ch. 2, pp. 13-15.
34. Mason, ch. 1, pp. 81-91; Mason, ch. 2, passim; Greenfield, pp. 87-91.
35. Harrison, pp. 6-32; Matloff and Snell, pp. 146-306, passim; Pogue, pp. 330-31; Mason, ch. 1, pp. 81-91; Mason, ch. 2, passim; Greenfield, pp. 87-91; Eisenhower, pp. 38-39; Dyer, p. 215; Isely and Crowl, p. 71.
36. Lecture, Brig. Gen. D.A.D. Ogden, USA, "Amphibious Operations," The Engineer School, Fort Belvoir, Va., 15 Mar 49, in Historical Research Collection, CMH; Coll, passim; Mason, ch. 2, pp. 11-14, 21-24.
37. Memo, Lt. Gen. Joseph McNamey, Dep CoS, for King, sub: Amphibious Training, 9 Apr 42, in Alfred D.

- Chandler, Jr. (ed.), *The Papers of Dwight David Eisenhower. The War Years: I* (Baltimore, Maryland: The Johns Hopkins Press, 1970), pp. 236-37.
38. Memo, Brig Gen Bull for CGs, 9 May 42, and Ltr, TAG to CGs, 22 May 42; Coll, pp. 361-65.
39. Ibid.
40. Lt. Gen. Arthur G. Trudeau, USA (Ret.), *Engineer Memoirs* (EP 870-1-26)(Washington, D.C.: Historical Division, U.S. Army Corps of Engineers, 1986), pp. 78-93; Brig. Gen. William F. Heavey, *Down Ramp! The Story of the Army Amphibian Engineers* (Washington, D.C.: Infantry Journal Press, 1947), pp. 2-3, 11-15, 22-26; Mason, ch. 2, pp. 27-28; For a complete account of the EAC's training, see *Military Training in the Engineer Amphibian Command of the Corps of Engineers, May 1942-April 1943*, in CMH file no. 4-9.4A, CB.
41. Trudeau, pp. 78-93; Coll, p. 362-63; Becker, passim; Heavey, pp. 22-23.
42. Office of the Chief Engineer, General Headquarters, Army Forces, Pacific, *Engineers of the Southwest Pacific 1941-1945*, vol. 4, *Amphibian Engineer Operations* (Washington, D.C.: 1959), pp. 21-25 (Hereafter *Engineers of SWPA*); Coll, pp. 362-63, 365; Heavey, passim.
43. Coll, pp. 361-65; *Engineers of SWPA*, pp. 26-30.
44. Coll, pp. 373-76; Heavey, pp. 10-15, 22-26.
45. Coll, pp. 361-63; *Engineers of SWPA*, pp. 26-30.
46. Coll, pp. 376. Only the 1st EAB was organized with one boat and one shore regiment. The 2d, 3d, and 4th ESBs had three engineer boat and shore regiments, each of one boat and one shore battalion and supporting units. The 5th and 6th ESBs were specially organized for the D-day landings in France and were built around engineer combat battalions and logistical units rather than around boat or shore battalions.
47. Fleet Adm. Ernest J. King, USN, and Walter M. Whitehill, *Fleet Admiral King: A Naval Record* (New York: W.W. Norton & Company, Inc., 1952), pp. 360-413; Thomas B. Buell, *Master of Sea Power: A Biography of Fleet Admiral Ernest J. King* (Boston: Little, Brown and Company, 1980), pp. 205-13; Lt. Gen. Lucian K. Truscott, Jr., *Command Missions: A Personal Story* (New York: E. P. Dutton & Company, 1954), p. 20; Matloff and Snell, pp. 187-94; Leighton and Coakley, pp. 360-87; Eisenhower, p. 39; Pogue, pp. 310-49, 372-97; Harrison, pp. 23-27; Wedemeyer, pp. 129-46.
48. Winston S. Churchill, *The Second World War: The Hinge of Fate* (Boston: Houghton Mifflin Company, 1950), pp. 313-25, 345-56, 374-90, 432-51; Martin Gilbert, *Winston S. Churchill: Road to Victory, 1941-1945* (Boston: Houghton Mifflin Company, 1986), pp. 84-89, 99, 126-34; George E. Mowry, *Landing Craft and the War Production Board, April 1942 to May 1944* (Washington, D.C.: Historical Reports on War Administration, War Production Board, 1944), passim; Lt. Col. Gordon M. Rudd, "Coalition Amphibious Doctrine in Operation HUSKY 1943," Society of Military History Annual Meeting, Kingston, Ontario, Canada, 22 May 93; J.R.M. Butler, *Grand Strategy*, vol. 3, pt. 2: June 1941-August 1942 (London: HMSO, 1964), pp. 563-82, 617-46; Matloff and Snell, pp. 192-94; Harrison, pp. 27-29, 59-63; Wedemeyer, pp. 129-46.
49. Ibid.; Rear Adm. L.E.H. Maund, *Assault from the Sea* (London: Methuen & Co. Ltd., 1949), pp. 77-95; Bernard Ferguson, *The Watery Maze* (New York: Hold, Rinehart and Winston, 1961), pp. 109-85; Morison, vol. 2, pp. 267-71.
50. See note 34 above; Samuel Eliot Morison, *History of U.S. Naval Operations in World War II*, vol. 1: *The Battle of the Atlantic, September 1939-May 1943* (Boston: Little, Brown and Company, 1964), p. 11; Ferguson, p. 153; Butler, pp. 618-23; Pogue, pp. 330-31; Wedemeyer, pp. 138-46, 155-58; Philip Ziegler, *Mountbatten* (New York: Harper & Row, 1985), pp. 182-84.
51. Pogue, p. 331; Ferguson, p. 153.
52. Pogue, p. 331; Morison, vol. 2, pp. 21-23; Ferguson, pp. 153-54.
53. *Administrative History of the U.S. Naval Forces in Europe, 1940-1946* (London: U.S. Naval Forces in Europe, June 1946), pt. 3, pp. 170-73, in CMH files (Hereafter *USNF in Europe*); King, pp. 393-94.
54. Eisenhower, pp. 50-51; Matloff and Snell, pp. 196-97; *USNF in Europe*, pp. 175-78; Mason, ch. 3, pp. 8-10, 11.
55. *USNF in Europe*, pp. 175-78, 181-88, 198-201.
56. A. M. Beck, et al., *The Corps of Engineers: The War Against Germany* (Washington, D.C.: CMH, 1985), pp. 64-69; Heavey, p. 18; Coll, pp. 371-72; *USNF in Europe*, pp. 177-78.
57. George M. Howe, *Northwest Africa: Seizing the Initiative in the West* (Washington, D.C.: CMH, 1957), pp. 25-46; Mason, ch. 2, pp. 15-21, 24-25, 35-41; Mason, ch. 3, pp. 7-11; Coll, p. 378.
58. Mason, ch. 5, "Amphibious Planning—1942: II, TORCH," passim; Howe, pp. 35-36, 46-54, 60-67; Heavey, pp. 18-26, 30-34.
59. Howe, pp. 37-39; Mason, ch. 3, pp. 7-11.
60. Eisenhower, pp. 50-51; Mason, ch. 2, p. 12; Mason, ch. 3, p. 7.
61. Matloff and Snell, pp. 313-14; Morison, vol. 1, passim; Mason, ch. 3, pp. 11-12.
62. Mason, ch. 3, pp. 13-14; see also JCS 263/2/D, Unified Command for U.S. Joint Operations, 20 Apr 43,

Appendix B to ch. 2. Paragraph 1 of JCS 263/2/D reads: "Unified command as employed for U.S. Joint Operations is that command organization in which a force composed of units of the Army and of the Navy operates as a single command unit under an officer specifically assigned by higher authority to command thereof." Additional information on the evolution of this important decision is in the Fahey Papers, HRC 381 "Joint Unified Command," in Historical Records Branch, CMH. JCS 263/2/D began life as Memorandum, Brig. Gen. A.C. Wedemeyer, OPD, for Secretaries, Joint Staff Planners, sub: Unified Command for U.S. Joint Operations, 2 Sep 42, with enclosure, Staff Study, "Unified Command for US Joint Operations." This then became JPS 54, 3 Sep 42, which was under consideration in the JCS and its committees until JCS 263/2/D was signed on 20 April 1943. In his personal notes on JPS meetings on this issue, Lt. Col. D.C. Fahey, Jr., one of the Army planners, indicates that the Navy unsuccessfully tried to modify the CCS 75/3, "System of Command for Combined U.S.-British Operations," upon which JPS 54 was based and, failing that, then tried to pocket veto it.

63. Becker, passim; Coll, pp. 361-64; Trudeau, pp. 79-80, 90-93; Matloff and Snell, p. 314; Heavey, passim.

64. Coll, pp. 372-73; Heavey, p. 14.

65. A full account of then Colonel Trudeau's actions are in Coll, pp. 380-85; Trudeau, pp. 93-95, 96-105; see also *Engineers of SWPA*, pp. 30-34; Heavey, pp. 27-29, 48-59; Leighton and Coakley, pp. 407-09.

66. Leighton and Coakley, pp. 407-09.

67. Coll, p. 384.

68. *Engineers of SWPA*, passim; Heavey, passim; Trudeau, p. 102; Vice Adm. Daniel E. Barbey,

MacArthur's Amphibious Navy: Seventh Amphibious Force Operations, 1943-1945 (Annapolis, Md.: U.S. Naval Institute, 1969), pp. 3-10.

69. Ray S. Cline, *Washington Command Post: The Operations Division* (Washington D.C.: CMH, 1951), pp. 180-83; Howe, pp. 15-54, 60-72; Mason, ch. 5, pp. 49-58.

70. Mason, ch. 2, pp. 44-46.

71. Dyer, p. 216; Coll, p. 386.

72. Coll, pp. 384-86; Leighton and Coakley, pp. 407-09.

73. Coll, pp. 385-90; Heavey, pp. 52-59; Beck, pp. 308-10; Becker, pp. 15-17.

74. *Put 'Em Across: A History of the 2d Engineer Special Brigade, 1942-1945* (Harrisburg, Pa.: The Telegraph Press, 1946; reprinted, Washington, D.C.: Office of History, U.S. Army Corps of Engineers, 1988), pp. 23-27; Karl Dod, *The Corps of Engineers: The War against Japan* (Washington, D.C.: CMH, 1966), pp. 226-29; Coll, p. 386; Leighton and Coakley, pp. 407-09; *Engineers of SWPA*, pp. 35-39.

75. *Engineers of SWPA*, p. 698, passim; *Put 'Em Across*, passim; Dod, passim; Coll, p. 390.

76. *Put 'Em Across*, p. 5.

77. Ogden, "Amphibious Operations," pp. 3-9; Memo, CMH for G-3, sub: JLPB Project No. 13-52, 7 Jul 54, revised 20 Dec 60, File 370.03 "Amphibious Operations WW II," in Historical Records Branch, CMH; Heavey, passim.

78. *Engineers of SWPA*, pp. 682-95; Heavey, pp. 176-84.

79. *The War Reports of General Marshall, General Arnold, and Admiral King* (Philadelphia: J. B. Lippincott Company, 1947), p. 658.

Editor's Journal

This issue of *Army History* continues our emphasis on the history of the U.S. Army in World War II. Dr. John T. Greenwood's article on U.S. Army amphibious operations during that conflict, Rear Adm. Schuyler N. Pyne's recollections of the LST (landing ship, tank) mock-up at Fort Knox, and the Archaic Archivist's look at operations in Italy all give this issue a special focus on U.S. Army amphibious operations during the war.

This is the ninth Archaic Archivist contributed by Dr. Richard Sommers of the Military History Institute.

A.G. Fisch, Jr.

The Chief's Corner

Harold W. Nelson

In recent months I have met with many commanders and command historians concerned about retaining our vital military history programs in a period of scarce resources. I remind everyone that we built or strengthened many of our key programs when resources were tight in the mid-1970s, and we should not feel especially threatened now. But uncertainty about the future makes many of us apprehensive so it may be useful if I review the strengths of our program as I see them and comment on a few of the challenges that worry me.

Our main strength is our people. Our civilian and military specialists in headquarters, museums, and schools have worked hard to establish themselves *in the Army*. Many of us have good academic credentials and contacts, but we have focused on the Army's needs, and that has helped establish our reputation as people who know our history, know our staff procedures, and know the importance of our mission. That mission—to preserve and interpret the Army's history—is especially important during periods of rapid change, and our people have demonstrated their ability to accomplish that mission.

Not all of the people who are our strength are full-time colleagues. Some are the commanders who have established an environment filled with senior leaders who don't want to repeat mistakes of the past, whether in losing accountability of our Army's material heritage or in ignoring its history as they consider the challenges of future warfare. These leaders know that they have experienced only the Cold War. All else is history, and they need the historian's knowledge of institutional, technological, and operational history. No matter what our functional specialty within Army history, commanders need our knowledge of the evolution of that function within the military art, within the U.S. Army, and within American society. They use the context we provide as they struggle with the larger decisions that shape the Army's future. They are supported by younger officers and NCOs who have been better educated in military history and stand ready to make more comprehensive use of our efforts.

Our second key strength is our Army's history. It is long, rich, and varied. It offers some important themes, such as civilian control of the military, management of scarcity, the militia/regular mix, the growing complexity of warfare, and operations along a spectrum of conflict. These broad themes, together with the branch histories,

operational histories, and unit histories that are the backbone of so many programs, give us tremendous capability to help any audience improve its understanding of the Army as a complex institution that has mastered many challenges in the past.

Our third great strength is our way of approaching history. Civilian universities and professional organizations provide the standards and credentials for our schools, publications, museums, and staff. This linkage to the larger professional community makes our efforts useful to a broad audience while ensuring that those efforts meet high standards. At the same time, we have an enviable record of using all available historical methods. We have great respect for oral history, museum interpretation, and narrative history in all of its manifestations. The resulting broad-based, deeply rooted history program obviously has great resilience.

Our fourth strength is our quality products. Our command histories are outstanding references that show continued improvement in content and timeliness. Our lectures, courses, and staff rides earn acclaim from virtually every audience. Our museums have an enviable reputation for excellence that they continue to improve upon. Our published histories and our responses to queries—the formal and informal extremes of our work—are both highly regarded. Defending programs that have proven track records of quality production is a relatively easy task.

I think our final important strength is the period we are experiencing. The military is held in high regard. Social and diplomatic changes abound. Commemorative activities for World Wars I and II remind everyone of our military heritage. Whether the military historian focuses on the operational, social, or strategic implications of our Army's history, the audiences are, as never before, numerous and attuned to our message.

But these strengths are the source of some of our challenges. Our successes have led to great demands and high expectations from our audiences. We know we cannot expect to increase capacity by hiring additional manpower, so we must look to automation, teamwork, volunteers, and other innovative approaches that will help us maintain our high standards while handling the increased workload. Part of that increased workload comes from the rapid changes within the Army, which not only increase our need to preserve and document but

also introduce personnel turbulence. Everything we do is personality-based. New customers and new colleagues result in new expectations and often increase the burden on the established historian.

I think this situational challenge leads to our most serious potential problem: overwhelmed by work, chronically understaffed, and surrounded by uncertainty, each of us could become isolated—from each other, from our academic roots, and from our audiences. Each of us must

do everything possible to resist this tendency. If our individual, institutional, and organizational fabric frays, our ability to sustain superior performance will erode and we will fail in our efforts to attract and retain the next generation to carry our work forward. With every day the Army's history grows, and each of us must continue to build programs that will preserve and interpret that history.

Call for Papers

SW Publishers, the publishers of *Civil War Regiments: A Journal of the American Civil War*, announces a series of multiple-book projects, one of the first being "The Peninsula Campaign of 1862: Yorktown to the Seven Days." SW Publishers invites papers on the Peninsula Campaign of 1862. Submissions must be scholarly in content, tone, and presentation and may focus on any aspect of the campaign, including, but not limited to: strategy, tactics, economics, politics, logistics, biographies of participants and units, and detailed battle studies and overviews.

The publishers envision a series of approximately eight to ten softbound volumes to be published singly over a span of three years. When the series is complete, all articles will be retypeset and hardbound into three large volumes, professionally indexed, and will include fold-out maps and additional articles exclusive to the hardbound edition.

Length and Format

Submitted manuscripts can be of almost any length. While most will be in the 4,500-word to 10,000-word range, these figures should not be viewed as restrictions. Very long articles are welcome, but authors must be open to the possibility that such works might need to be broken into parts and perhaps even printed in successive issues of the journal. Conversely, interesting and important sidelights of the campaign often can best be related in short pieces.

Whenever possible, articles should be submitted on either a 5.25- or 3.5-inch floppy disk—the latter is preferred. The disk can be either IBM or Apple Macintosh compatible—the latter is preferred. Please indicate which word processing program (and version) is used. All submissions must include a printed or typewritten hard copy, double-spaced on plain white paper, and a self-addressed, stamped envelope. No article will be returned unless submitted with proper return postage.

Documentation and Illustrations

Articles must be extensively documented and based on research in primary source materials, such as reminiscences, memoirs, reports, letters, diaries, and the pension and military records in the National Archives. Respectable secondary works can be cited, but no article based largely on secondary sources will be accepted for publication. Thorough use of the *Official Records* and other reference sources, such as Dyer's *Compendium*, is encouraged.

Authors are encouraged to suggest photographs that would enhance their articles and to provide information on the location of these photos. Engravings, paintings, and other artwork will be considered as illustrations for articles on an exceptional basis. Suggestions for and sketches of maps to accompany articles also are welcome. All maps will be redrawn for publication.

Compensation

Authors will be paid \$200 for published submissions of 4,500 words or more, \$125 for all other published submissions, including introductions. Authors will receive three copies of the softbound issue in which their work appears and one copy of the hardbound volume containing their work.

Queries

Prospective contributors should address all queries concerning the subject and scope of the proposed article, as well as projected length and estimated completion date, to the series editor, William J. Miller, at the Editorial Office, 7621 Chadds Landing Way, Manassas, Va. 22111. Telephone (703)-369-0602, facsimile (703) 369-0602.

Buglers and Bugle Calls in the U.S. Army

Gerald Keating

Buglers and Bugle Calls: Their Early Development

The use of music and musicians in warfare can be traced to as early as 3,000 B.C. in stone reliefs depicting Babylonians playing in military processions. The Roman legions, circa 93 A.D., provide the first tangible evidence of the bugle (*buccina*) in use as a tool for tactical command and control in battle. It is during this ancient period that the bugle, the trumpet (*tuba*), and the horn (*cornu*) were developed to signal troop movements, perform for official functions, and provide support for troop morale.

Although the early Roman musicians (*aenatores*) also played reed and percussion instruments during various military activities, it was the ancient horn that was needed to emit the penetrating command signals during battle. Roman horn instruments included the *tuba*, a straight instrument made of bronze, four feet long; the *buccina*, an instrument fashioned of animal horn, covered with precious stones; and the *cornu*, a curved instrument in the shape of a "G," which was carried over the shoulder.

Early Roman horn musicians were divided into three sections, each performing a distinct tactical signal function. Long-distance command signals, such as for attack or retreat, were the responsibility of the thirty-five *tuba* players (*tubicines*) assigned to a legion headquarters. Also assigned to headquarters were *bucinatores* (*buccina* players) who were used to sound local signals, such as the watch. The thirty-four *cornu* players (*cornicines*), one of whom was assigned to each legion maniple (60 or 120 men), had the greatest tactical importance. The *cornicine* intercepted the signal from the *tubicines* and performed the critical task of relaying it to the standard bearer. Sentry relief was also sounded by the *cornicine*.

By 200 A.D. the Roman legions had developed forty-three different signals, of which the calls for attack, retreat, halt, or encampment were the most widely known. To ensure uniformity of bugle calls, the Romans established a specialized training school for their *tuba* players.

Bugle calls played in ancient times by the Roman legions are still used in some form today, because of the limited scale that can be played on the valveless military bugle. The absence of valves restricts tonal variety to one key (C Major) and, usually, five notes. The tonal combinations that can be contrived from these notes have been used in every conceivable melodic and rhythmic pattern, to the extent that little if any room remains for originality. Consequently, certain calls used by one country are

identical to those of other countries. For example, the American version of "Reveille" is the same as that used by the French Army. The U.S. Army "Fire Call" is also similar to the English 14th Hussars' Regimental Call.

The Bugle in the U.S. Army

The tonal limitations of the early military bugle required European bands to rely heavily upon double reed instruments for melodic variety in martial music. British regimental bands in 1690, for example, contained as many as six hautbois (oboes), while French bands, by 1750, had modified their instrumentation to include two hautbois, two clarinets, two horns, and two bassoons.

The establishment of the United States Military Academy Band in 1813, coupled with the invention of the Royal Kent (keyed) bugle (forerunner of the modern day trumpet), resulted in widespread popularity for the bugle in the United States. The keyed bugle permitted brasses to play intricately woven melodic passages, which heretofore were played only by woodwind instruments. Richard Willis, who was a virtuoso performer on the Royal Kent bugle, was appointed teacher of music at the Military Academy in 1817 and was responsible for introducing the new invention to military bands in America. Bugles began replacing entire woodwind sections in U.S. bands to the extent that bugles keyed in F and B-flat played harmony, while E-flat bugles played the melody passage. Bass bugles were also used to play the bass line of musical scores. By 1830, virtually all bands in the United States were composed only of brass instruments. Likewise in France, Joseph B. Arban popularized the newly developed valve cornet in triumphant concert tours throughout Europe. In 1869 Arban was elected professor of valve cornet at the French Military School and in 1894 authored *The Complete Celebrated Method for the Cornet*, which even today is considered the authoritative source for valve horn playing techniques.

The Bugler in the U.S. Army

Improvements in the quality of bugles, trumpets, and other brass instruments during the Civil War era led to their enthusiastic acceptance by military and civilian bands alike. The demand for buglers and trumpeters extended to Civil War field units, where each regiment was authorized a band and two trumpeters or buglers for each company or battery in the regiment. By 1876

Congress had furnished the Army with a chief trumpeter and twenty-four trumpeters for each of the ten cavalry regiments.

In the field, buglers were expected to be excellent horsemen, so as to play signals at the charge. *A History of U.S. Army Bands* (p. 17) reports that a bugler's day would begin by:

reporting to the regimental commander as orderly bugler of the day. Once a command or signal was given on the march, the bugler played the appropriate call for that command or signal. After a pause, he repeated the last note. The original call that was sounded became the preparatory command. The repeated last note became the signal of execution. In addition, a call which ascended the musical scale indicated movement to the right of the line or column, while a call which descended the scale indicated movement to the left of the line or column.

Daily camp life began in mounted units with the first bugle call, "Assembly of Buglers," being sounded at 0500. Shortly thereafter, "Assembly" was played, at which time the regimental companies formed in line in their company streets. "Reveille" was then played, followed by "Roll Call."

The work day commenced in mounted regiments with "Stable Call," which was the signal for all mounts to be cleaned and fed. "Mess Call" was followed by "Sick Call" at 0800. "Water Call" was played, and then "Fatigue Call." Thereafter, "Drill Call" was sounded for infantry units, and if the drill was for mounted troops, the call was "Boots and Saddles." At noon, "Mess Call" again was sounded, as was "Water Call" at 1600 and "Stable Call" at 1700.

The camp work day concluded about 1745 when "Attention" was sounded, followed by "Assembly" and in mounted units—"Retreat." Infantry units played "Dress Parade" in lieu of "Retreat."

The final roll call for the day came about 2030, when "Assembly" was followed by the playing of the final call of the day, known as "Tattoo" in mounted units and "Taps" in the Infantry. At the conclusion of this call, the camp day ended with lights out, and all troops assembled in quarters, except for the guard mount.

By 1880 there were sixty-seven trumpet or bugle calls in use by the U.S. Army. These calls controlled the regimen of camp life for troops and their mounts through World War I. Many buglers, particularly those assigned at the company level, presumably had scant musical training and aurally memorized their assigned calls through

constant repetition.

In addition to their musical duties, buglers also performed other camp duties, such as orderly bugler of the day and messenger for the regimental commander.

During the Civil War buglers for both the Union and Confederate forces were pressed into duty as stretcher bearers, medical orderlies, and grave diggers. Under fire, buglers have also proven their mettle, as exemplified by Trumpeter Calvin P. Titus during the Boxer Rebellion in 1900. As a member of E Company, 14th Regiment, Titus volunteered to scale the nearly vertical east tower of the city wall near Tung Pien Gate in Beijing, China. His successful ascent of the wall served as an inspiration to other members of his unit who were pinned down under heavy Chinese fire. Trumpeter Titus was awarded the Medal of Honor for his courage and example.

The demise of the bugler in Army life came with the introduction of field phones on maneuvers and loudspeakers, over which phonograph recordings of calls could be played in garrison. In today's Army, buglers have been replaced by trumpeters assigned either to special, division, or major command (MACOM) bands. The rare occasion upon which a band trumpeter actually performs a bugle call today is limited to the playing of "Taps" for selected military burials.

Conclusion

Buglers and the calls they have sounded have served to inspire soldiers of all armies throughout history. In the U.S. Army, buglers were an indispensable part of military life and were eclipsed only by twentieth-century advances in communications. The historical contributions buglers have made to the U.S. Army were poignantly expressed by the officers of Company C, 1st Massachusetts Heavy Artillery, on 15 October 1863. According to Francis Lord and Arthur Wise (*Bands and Drummer Boys of the Civil War*, p. 229), on that date, Bugler Edward F. Chard was presented with a bugle by his regimental officers as a token of respect and appreciation for Bugler Chard's "good conduct and attention to detail." Throughout the course of military history, similar expressions of gratitude have been expressed to other buglers for the same reasons.

Gerald Keating is a major in the U.S. Army Reserve. A 1987 graduate of the Command and General Staff College, he currently serves as an instructor with the 4151st U.S. Army Reserve School in Houston, Texas, where he has been a trumpet player with the Houston Community College Jazz Ensemble for many years.

A Note on Sources

Mr. Keating's paper is based primarily on the following sources: *A History of U.S. Army Bands*, U.S. Army Element School of Music, NAB Little Creek, Virginia; Williams White, *A History of Military Music in America* (Westport, Conn.: Greenwood Press, 1944); J. B. Arban, *Complete Conservatory Method for Trumpet* (New York:

Carl Fischer, Inc., 1982); Francis Lord and Arthur Wise, *Bands and Drummer Boys of the Civil War* (New York: Thomas Yoseloff, 1966); and Harry and Everette James, *Harry James Trumpet Method* (New York: Robins Music Corp., 1969).

The LST Mock-up at Fort Knox

Schuyler N. Pyne

During World War II, shortly after the 1941 Lend-lease agreement between the United States and the United Kingdom, the British government approached Washington regarding construction of large numbers of landing craft and ships for their account. The British had been defeated in May 1940 in France but, in the miracle at Dunkirk, had been able to save most of their expeditionary force personnel. In another miracle of bravery and leadership the British defeated the German *Luftwaffe* in the Battle of Britain, so that by early 1941 the threat of a German invasion of the British Isles was for all practicable purposes dormant. The government of Prime Minister Winston Churchill now turned to the idea of a British invasion of Europe.

Such an event seemed like a wild dream with a well-armed and victorious Germany manning the shores of the North Sea and the English Channel, but British planners were firmly convinced that a massive armored assault under a great air screen and naval bombardment, backed up with waves of infantry, could do the job. Lend-lease, a means developed by President Franklin D. Roosevelt and Prime Minister Churchill to finance and supply the British war effort without too many objections from Congress, was the logical source of the equipment needed for this assault on the European continent.

The British Admiralty, therefore, submitted to the U.S. Navy Department rough specifications of the types and sizes of crafts and ships they thought they would need for the invasion. Among these plans were hundreds of small vehicle and personnel landing craft to be carried on transports and a whole series of larger seagoing vessels capable of at least cross-Channel, if not cross-ocean, operations. This latter category included a 100-foot self-propelled landing barge (later, the 105-foot LCT), 300-foot tank-landing ship (later, the 327-foot LST) and a

self-propelled floating-dry-dock-like ship (later, the LSD).

In the fall of 1941 the Navy Department's Bureau of Ships, working with a delegation from the British Admiralty, had developed general plans and specifications for several of these types and was ready to put them out for detailed plans by naval architects and ship builders. The construction of the ships was to begin as early as possible, once contracts could be let.

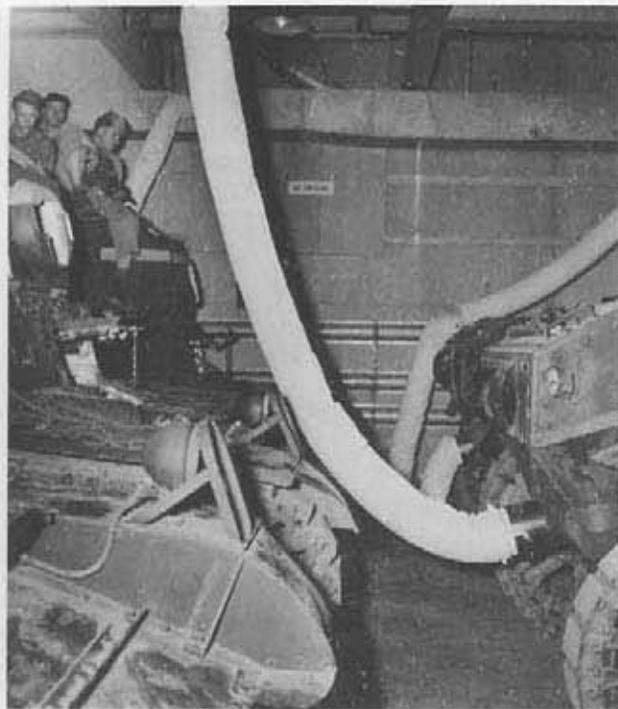
Gibbs and Cox, Inc., the well-known firm of naval architects and marine engineers in New York, was chosen to prepare the detail specifications and plans for the LST, and Dravo of Pittsburgh was made the lead yard and mass-material procurer for it. Initially, 500 LST's were ordered.

The LST was to be decked over and, therefore, was the only type with a problem of removing large quantities of toxic gases from the vehicle-carrying compartment. The LCT was open to the sky above a low bulwark, the LCI, while decked over, carried no vehicles, and the LSD carried LCT's, or the smaller LCM's (landing craft, mechanized), in an open well. But in the LST's a vast space, 200 feet long, 30 feet wide, and 14 feet deep, had to be properly ventilated for large numbers of tanks or other vehicles to be brought aboard under their own power or started up and disgorged upon a beach during an assault.

Those responsible for the project recognized this as a major design and operational problem and began work on it early in the final design and construction stages of these ships. Although such a problem does not lend itself too readily to calculations and model tests, both were tried. Moreover, there were different schools of thought on the best way to remove exhaust gases from the tank deck of the ships. One proposed method was to employ a system similar to the dust-and-shavings-removal system in a large woodworking shop on which every pollu-



The LST mock-up building at Fort Knox.



View of local exhaust-collector hoses between two lines of tanks.

tion-producing machine would have its own lead, all being brought together in large ducts encircling the space; a common fan would create the suction and exhaust the gases to the open atmosphere. There were others, however, who felt certain this would not work at all and that a system of fans providing high-velocity general exhaust was the proper solution.

As a trial, and to measure the amount of air required per unit of time to keep the product of combustion at an acceptable level, the design and ventilation experts from the Bureau of Ships and Gibbs and Cox, working with people from the War Department with similar specialties, arranged for the construction of a large instrument box at Aberdeen Proving Ground. A medium tank was placed in the box and, with its engines roaring, measurements were made. It soon became evident by just multiplying these readings by the number of tanks the LST could carry that the power and volume of air required could not be calculated merely by using the instrument box method. Thus it was decided to build a full-scale mock-up of the entire tank deck of the LST with fans and instrumentation to get a solution to the problem.

The War Department was most helpful and designated Fort Knox, where the tanks and other vehicles would be available, to be the test location. It was now April 1942, and the building of the mock-up and the

procurement of fans and instruments could not be done overnight. Nevertheless, working with the naval engineers, the people at Fort Knox constructed the mock-up and installed the ventilation fans, ducts, and instruments for the first tests in less than two months.

The building housing the mock-up was of wood construction with a concrete floor. Every beam, stiffener, lightening hole, and obstruction to the flow of air was faithfully reproduced full-scale so that when completed, a person standing inside the mock-up was to all intents and purposes standing in the tank-handling space of an LST.

The first tests were conducted using the individual vehicle exhaust theory. Thus after the tanks were introduced into the mock-up there was a forest of exhaust hoses, one from each tank, leading to the main air ducts. Each tank also had to have an adapter placed on it to carry its exhaust into its own private lead.

When all tanks were in place and their exhausts hooked up, the instruments were read as each tank in sequence started up its engine and on signal darted out the bow door of the mock-up leaving its exhaust-collector hose dangling behind. Because of leakage and the exhaust from the tanks after they had moved from their original places and slipped their exhaust hoses, the carbon monoxide and other gas levels in the tank space soon



General view of mock-up bay with duct work and hose collectors installed for local exhaust test (above). View of bay from a point just above incline leading to bow opening, with thirty-nine light tanks in position (below).



became excessive. Fortunately, all personnel inside the tanks had been equipped with breathing apparatus as the tanks were loaded leisurely under their own power.

There was no question that only a general exhaust system would work, so these first tests were discontinued forthwith. Various combinations of high-velocity general ventilation then were tried. After extensive tests and data analysis, a ductless system consisting of eight high-speed, high-capacity exhaust fans was installed in the overhead of the tank space with rectangular openings for air intake scattered around outboard of the circular exhaust openings. This configuration provided an adequate and thorough air-cleaning system which worked very well in the actual LSTs.

All those concerned with the project understood that after the completion of these tests the mock-up would be used for training and other purposes.

Rear Adm. Schuyler N. Pyne, USN (Ret.), now deceased, was in charge of the LST mock-up project as a lieutenant commander. He prepared this article in August 1976. It was submitted to Army History by his daughter, Sally P. Kennedy, while she was serving with the Defense Advisory Committee on Women in the Services (DACOWITS), on behalf of the Army's Deputy Chief of Staff for Personnel, Human Resources Directorate.

Wilderness/Spotsylvania Staff Ride Guide

Ted Ballard

In the spring of 1864 General Robert E. Lee and Lt. Gen. Ulysses S. Grant were both at the height of their careers. In their first contest of wills, the two would begin the last year of the war with two of the conflict's bloodiest battles, Wilderness and Spotsylvania, Virginia. An examination of these two battles and the commanders involved is a study in the operational and tactical levels of the war, leadership and command at senior levels, and the courage of individual soldiers.

The Wilderness and Spotsylvania battlefields are included in the Fredericksburg/Spotsylvania National Military Park, and a staff ride covering both sites can be made in one day. The information which follows is intended to assist interested individuals in designing and leading such a staff ride.

A publication to assist in organizing the project is *The Staff Ride*, by William G. Robertson, published by the U.S. Army Center of Military History, Washington. This booklet provides guidance to organize a staff ride, lists various functions (e.g., site selection, study phases) associated with staff riding, and establishes flexible standards for a successful exercise. Copies are available to Army account holders from the U.S. Army Publications Center, 2800 Eastern Boulevard, Baltimore MD 21220-2896. The order number is CMH publication 70-21.

A variety of publications concerning the battlefields

are available for purchase at visitor centers located in the Fredericksburg/Spotsylvania National Military Park. The Fredericksburg Battlefield Visitor Center is located at 1013 Lafayette Boulevard, Fredericksburg. The telephone number is (703) 373-6122. The Chancellorsville Visitor Center is located 10 miles west of Fredericksburg, on Va. Route 3. The telephone number is (703) 786-2880. These locations are open 7 days a week, 8:00 a.m. to 5:00 p.m., except Christmas, New Years, and Thanksgiving. Additional information regarding Fredericksburg/Spotsylvania National Military Park is available from the Superintendent, P.O. Box 679, Fredericksburg, Virginia 22404.

Modern 1:24,000-scale topographical maps of the battlefield area are available for sale from the U.S. Geological Survey, Denver, Colorado 80225 or Reston, Virginia 22092. The cost is \$2.50 per map. The Chancellorsville and Mine Run quadrangles cover the Wilderness battle, the Spotsylvania and Brokenburg quadrangles cover the Battle of Spotsylvania.

Sets of black and white National Park Service maps showing detailed troop dispositions at either Wilderness or Spotsylvania are available from the Fredericksburg and Chancellorsville visitor centers. The cost of the 5-sheet Wilderness map is \$6.00; the 10-sheet Spotsylvania map is \$10.00.

A few published sources of information which might be helpful in developing a Wilderness/Spotsylvania staff ride are listed below. Copies of these publications should be available from commercial bookstores or, if out of print, through interlibrary loan:

Cornwell, James Marshall. *Grant as a Military Commander*. New York: Van Nostrand Reinhold Company, 1970, pp. 131-62.

Dowdey, Clifford. *Lee's Last Campaign: The Story of Lee and His Men Against Grant—1864*. Boston: Little, Brown and Company, 1960.

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Grant, Ulysses S. *The Personal Memoirs of Ulysses S. Grant*. New York: Charles Webster and Company, 1886, vol. 2, pp. 177-243.

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Steere, Edward. *The Wilderness Campaign*. Harrisburg: The Stackpole Company, 1960.

Trudeau, Noah Andre. *Bloody Roads South: The Wilderness to Cold Harbor, May-June 1864*. New York: Ballantine Books, 1989.

U.S. War Department. *War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies*. Washington: Government Printing Office, 1889. Series 1, vol. 36, pts. 1-3.

Larry A. ("Ted") Ballard is a historian in the Center's Field and International Division, with a special interest in the Civil War. Mr. Ballard conducts or assists with a number of Civil War staff rides each staff ride season.

Electronic Access to MHI Refbibs

The U.S. Army Military History Institute (MHI) has nearly 3,000 reference bibliographies (refbibs) covering numerous subjects and identifying the pertinent sources located at MHI. These refbibs are available via electronic mail and the Defense Data Network (DDN).

With access to the DDN, the procedure involves sending mail to: info@carlisle-emh2.army.mil and identifying a particular refbib to be returned to you. This is done by entering in the "Subject" field the refbib filename plus the suffix `.asc`. Leave the text portion of your message blank and send it.

If successful—which usually depends upon using the *exact* refbib filename and remembering to add the `.asc`—the message you sent will be returned with the requested refbib, which you then can print or transfer to your word processing system. All refbibs are available in the ASCII format (hence the `.asc` suffix). Each refbib file requires a separate request or mailing.

For electronic help and an introduction, send first for the file name `USAMHI` to which you add `.asc`; thus, `USAMHI.asc`. For help by phone, call Mr. Dennis Vetock, 717-245-3168 or DSN 242-3168.

The Alaska Highway A Forgotten Epic of World War II

Heath Twichell

Last November 1992 marked the fiftieth anniversary of Alaska Highway. Built in haste and fear as an emergency supply line during the early days of World War II, the 1,500-mile highway is now a lightly traveled tourist road. The anniversary went largely unnoticed by most Americans, although it was celebrated by a commemorative postage stamp, by military exhibits and veterans' reunions in many towns along the route, and by the publication of several books, including my own *Northwest Epic: The Building of the Alaska Highway*. (Editor's note: See Dr. John Greenwood's review of Twichell's book later in this issue). My father helped push the original pioneer trail across the Canadian Rockies to Alaska in 1942, serving first as the executive officer of the 35th Engineer Regiment and then as commanding officer of the 95th Engineer Regiment.

As a teenager, I wasn't much interested in my dad's war stories, and I was out of college and busy with my own career by the time he started writing a book about his experiences on the Alaska Highway (ALCAN). When he died without finishing it, I was the reluctant heir to his manuscript, never even looking at it for many years. In 1978 I dug out his notes and discovered, to my surprise, that he really had a good story to tell. I decided then to try to finish it, using his experiences as the central theme of the narrative. I also determined to cover what the other Army units did, as well as the political and strategic background of the decision to build the highway. It took ten years of part-time research before I was ready to pick up where my father left off—and three years more of steady work to complete the book. I think he would be pleased with it.

Hastily bulldozed by seven engineer regiments over a largely unmapped stretch of mountains and muskeg in the tense aftermath of Japan's attack on Pearl Harbor, the Alaska Highway provided an emergency supply line for the isolated airfields of the Northwest Staging Route and our military bases in Alaska. Soon, however, under the impetus of "worst case" wartime planning, the highway spawned an incredible array of related construction projects over more than one million square miles of western Canada and Alaska: an oil refinery and pipeline delivery system known as CANOL, a network of telephone and telegraph lines, dozens of temporary landing strips—and much, much more.

At a time when skilled workmen made \$1.50 an hour and oil sold for less than \$1 a barrel, the total cost of this enormous enterprise came to \$500 million in American and Canadian dollars. No other World War II construction effort was more expensive—or more controversial. Most critics questioned the project's military value in relation to its great cost. A well-publicized investigation of CANOL's excesses by Senator Harry S. Truman in late 1943 gave a timely boost to his political career.

Although the Alaska Highway was little used as a logistical lifeline because the Japanese never managed to cut the sea lines of communication to Alaska, it still was an awesome achievement in terms of human effort, resourcefulness, and gritty endurance. Working in a vast, empty land where the temperature could drop eighty degrees overnight and the black flies and mosquitos were almost as formidable as the Japanese, a rapidly organized force of 46,000 soldiers and civilian contractors took less than two years to finish what my father called (with pardonable pride) "the biggest and hardest job since the Panama Canal."

In the summer of 1942, following the Japanese occupation of the islands of Kiska and Attu in the Aleutians, the progress being made along the Alaska Highway was a hopeful sign to Americans. With little other war news to cheer about, the ALCAN story was a natural for superlatives and patriotic hyperbole. Here were weary, dust-covered soldiers manning giant machines and racing to construct a supply road to Alaska's beleaguered defenders through the most rugged terrain and horrendous weather conditions imaginable. Only the gory excitement of actual combat was missing.

Beginning with the American invasion of the Solomons and the landings in North Africa in the fall of 1942, public attention shifted to one dramatic overseas military operation after another—and the Alaska Highway faded from the headlines. As a result, one of the project's very real contributions to the final Allied victory generally was overlooked. Of the 14,000 U.S. combat aircraft turned over to the Soviet Union under the terms of the Lend-lease program, nearly 8,000 were flown to the Soviets via the airfields of the Northwest Staging Route, a massive undertaking made possible by the existence of the Alaska Highway—and a vastly safer delivery route than the Murmansk shipping run or the long flight via

South America-Africa-Iran.

Northwest Epic is also the story of the black engineer soldiers who comprised almost 40 percent of the military work force on the Alaska Highway and CANOL projects (vs. 11 percent of the Army as a whole). Unwanted for duty in the front lines, kept segregated, and often treated with condescension or contempt by their white leaders, they nonetheless proved steadfast heroes in the land of the midnight sun.

In the final analysis, it is the people who built the Alaska Highway who should be remembered: soldiers and construction workers, whites, blacks, and native Americans, citizens of the United States and Canada. Some were heroes, a few were less than admirable, and most were simply men and women doing what they had to do under extraordinary circumstances. For many of them, it was the adventure of a lifetime. One of my favorite anecdotes concerns Mike Miletich, a lieutenant in the 35th Engineer Regiment, who discovered how to overcome one of the toughest obstacles along the 1,500-mile route: the shale and limestone cliffs blocking the Army's way at Muncho Lake in northern British Columbia. All that he needed was cool nerves and a lot of explosives. As my father recalled it:

The cliff ran sheer down to the water line, but below this the action of the waves and ice had cut holes, some of a size to hold a box of TNT.... Miletich sent a man up the cliff to fasten a long rope to a projecting rock.... After taking off his clothes, Miletich tied a noose in the other end of the rope and slipped it under his arms. Then he

dived...into the icy lake, using the rope for support while he explored the face of the cliff to locate a hole of the right size below the water. When he found a hole, he then removed the wooden cover from a box of TNT...took out one block and laid it aside. Placing the box under his arm, he swam with it back to...the hole, into which he placed the box...opened side out.

Then he took the spare stick of explosive and placed a blasting cap in it, to which a waterproof fuse...had been attached. Placing the device in his teeth, he lighted it, and with the fuse sputtering and set to go off at the proper time, he swam back to the box. Into this he placed the charge and then swam out of danger.

After a good many repetitions of this process, the 35th Engineers had the beginnings of a rough but serviceable road along the edge of Muncho Lake. While much of today's Alaska Highway no longer closely follows the path of the original pioneer road, at Muncho Lake it still does. As in 1942, there is no other way to go.

Dr. Heath Twichell is a retired colonel in the Army who served at the Center in 1970-71. His first book, Allen: The Biography of an Army Officer, 1859-1930, won the Allan Nevins Prize in American history and was published by Rutgers University Press (1974). Dr. Twichell has taught history and international relations at the United States Military Academy, the Naval War College, and Salve Regina University. He currently is working on a book about presidential decision-making during the crisis points of the Vietnam War.

Army History Reader's Survey

I receive, on average, three phone calls and five or six letters a week from readers of *Army History*. These calls and letters usually include some kind words about our publication. Kudos are fine, but for planning purposes, we thought it would be a good idea to ask our readership more specifically how *Army History* is doing. To that end, we included a Reader's Survey in issue no. 24.

Frankly, the response to the survey was very disappointing: less than 4 percent of the more than 6,000 copies of no. 24 were returned—a statistically insignificant sample. Those who replied overwhelmingly confirmed *Army History's* existing emphasis and mix of articles and items. There were no surprises.

I want to thank those who were kind enough to fill out the survey. Many included additional, detailed comments, and I assure you that I have read and will consider each and every one. I only wish our readers' response had been greater.

A.G. Fisch

The 1993 MACOM Historians' Council Meeting

Billy A. Arthur

Hosted by the U.S. Army Military History Institute and conducted by the Center of Military History, the 1993 MACOM (major commands) Historians' Council Meeting was held the last week of April at Carlisle Barracks, Pennsylvania. Established as an advisory body to the chief of military history, the council is composed of the Army's senior field historians and meets annually to review the management of the Army Historical Program and to provide recommendations for improvement. The theme of this year's meeting was "The Army Historical Program in a Time of Change and Challenge."

Historians from the following Army organizations attended: Corps of Engineers, Forces Command, U.S. Forces Korea/Eighth Army, Health Services Command, Intelligence and Security Command, Army Materiel Command, Military District of Washington, Military Traffic Management Command, National Guard Bureau, Reserve Command, U.S. Army, Pacific, Special Operations Command, Space and Strategic Defense Command, Training and Doctrine Command, the United States Military Academy, and the Center of Military History. In addition, Dr. Brooks Kleber, the center's former assistant chief of military history, participated in the program, while Col. Robert Roux represented the Office of The Surgeon General.

Following welcoming remarks by Dr. John Greenwood, director of field and international programs, and by

Col. Tom Sweeney, director of the Military History Institute, Brig. Gen. Harold W. Nelson discussed the command historian's role and his or her relationship with the commander and the staff, especially during these times of diminishing resources and a diminished external threat. The program also included briefings by all command historians covering the status of the command's historical program, its significant accomplishments during the previous year, and problem areas and solutions. These exchanges of information and discussions of problems and possible solutions proved to be a major benefit of the meeting.

The next day was devoted to a staff ride to the Gettysburg National Battlefield, led by the chief of military history. General Nelson emphasized the "how to" aspects of conducting a staff ride and also its payback for a command's historical program.

The highlight of the council meeting was the presentation of the Award for Distinguished Civilian Service to Dr. Kleber by the former chief of military history and current commandant of the U.S. Army War College, Maj. Gen. William A. Stofft.

Mr. Billy A. Arthur is chief of the Leader Development Programs Activity in the Center's Field and International Division.



Historians gather at the Virginia Memorial, Gettysburg National Battlefield Park.

World War II

1943

October - December

1 Oct - Elements of the Fifth Army enter the evacuated city of Naples.

3 Oct - The 133d Infantry, 34th Infantry Division, captures the important road junction of Benevento, Italy, and forces a bridgehead over the Calore River.

6 Oct - The Allied conquest of the central Solomons is completed as troops of the 27th Infantry occupy Kolombangara. The island had been abandoned by the Japanese on 3 October. As a result of the campaign for the central Solomons, the Allies gain four airstrips within range of Bougainville, the next objective.

- Elements of the Fifth Army reach the Voltumo River along a seventeen-mile front.

13 Oct - Italy declares war on Germany.

- Elements of the II and III Corps establish bridgeheads on the north bank of the Voltumo.

15 Oct - In Italy, the 3d Infantry Division captures Cisterna, and the 2d Battalion, 135th Infantry, of the 34th Infantry Division captures Ruviano.

17 Oct - Following the German evacuation of Villa and Liberi, the 3d Infantry Division occupies the towns, which had been staunchly defended for the past two days.

19 Oct - Representatives of England, the United States, and the Soviet Union open a series of conferences in Moscow to discuss war plans. The Soviets are assured that a second front will be opened in Europe in May 1944 and that the Americans and British will accept nothing less than unconditional surrender from Germany. The Soviets agree to go to war against Japan once Germany is defeated.

20 Oct - The 34th Infantry Division takes Alife and the 45th Infantry Division captures Piedimonte d'Alife, as operations progress in the Fifth Army area in Italy.

21 Oct - Secretary of War Henry L. Stimson announces that there are more than 140,000 Axis prisoners of war in the United States.

27 Oct - U.S. and New Zealand troops land on Mono and Stirling Islands of the Treasury group in the northern Solomons. Japanese resistance is negligible.

28 Oct - U.S. troops land on Choiseul Island, northern Solomons, to draw attention from the upcoming invasion of Bougainville.

31 Oct - The Italian 1st Motorized Group, the first Italian unit to join the Allies, is assigned to the Fifth Army.

1 Nov - U.S. marines invade Bougainville.

-IV Corps opens maneuvers at the Desert Training Center in California. The 11th Armored Division and 95th Infantry Division participate.

4 Nov - The 3d Battalion, 179th Infantry, 45th Infantry Division, crosses the Voltumo and takes Venafro. The 133d Infantry, 34th Infantry Division, captures Santa Maria Oliveto. The 168th Infantry, 34th Infantry Division, captures Roccaravindola.

5 Nov - The Fifth Army begins an assault on the Germans' Winter Line, made up of defensive positions designed to shield the enemy's main line of resistance, the Gustav Line. For the next ten days the Fifth Army is hampered nearly as much by rain, mud, and the mountainous terrain as by the enemy's determined resistance.

-Following a week of unrest among the 15,000 Japanese internees at the Tule Lake, California, Segregation Center, Regular Army troops arrive to restore order. On 1 November the internees had demanded the dismissal of the War Relocation Board director of the center, Ralph Peck. On the 13th Peck announces his resignation.

8 Nov - The first U.S. Army troops, elements of the 148th Regimental Combat Team, arrive at Bougainville.

11 Nov - Secretary of War Stimson releases the Army's total casualty figures to date: 12,481 dead, 30,263 wounded, 23,954 missing, and 22,952 prisoners.

13 Nov - The 129th Infantry arrives at Bougainville.

15 Nov - Fifth Army offensive operations are suspended, as the elements are reorganized and resupplied in preparation for another assault on the Winter Line.

Chronology

19 Nov - The 145th Infantry arrives at Bougainville, completing the infantry assets of the 37th Infantry Division on the island.

20 Nov - U.S. troops invade the Gilbert Islands of Tarawa and Makin.

22 Nov - The XI Corps begins maneuvers in Tennessee. The 14th Armored Division and 35th, 87th, and 100th Infantry Divisions participate.

22-26 Nov - President Franklin D. Roosevelt, Prime Minister Winston Churchill, and Generalissimo Chiang Kai-shek meet in Cairo, Egypt, to discuss the conduct of the war.

27 Nov - Japanese resistance ends in the northern Gilberts. All the islands from Makin to Apamama Atoll are securely in Allied hands. On Tarawa alone over 4,500 Japanese are killed.

29 Nov - The IX Corps begins maneuvers in Louisiana. The 9th Armored Division and 86th, 89th, and 97th Infantry Divisions participate.

28-30 Nov - President Roosevelt, Prime Minister Churchill, and Marshal Joseph Stalin attend a conference at Tehran, Iran. They agree that the invasion of France will be given priority over all other operations.

2 Dec - Following several days of diversionary attacks, Fifth Army opens a new assault on the Winter Line, with the immediate objective of capturing Monte Camino.

3-7 Dec - The United States and Britain resume the Cairo conference.

6 Dec - Monte Camino falls to the British 10 Corps of the Fifth Army. Preparations are made for the next major phase of the offensive, which will be against Monte Lungo.

8 Dec - The 1st Battalion, 143d Infantry, captures the crest of Monte Summucro, Italy. The western slopes are still held by the enemy.

10 Dec - After an unsuccessful assault on Hill 950, a mile north of Monte Summucro, Italy, begun on 7 December, the 3d Ranger Battalion succeeds in taking the objective.

15 Dec - The Fifth Army renews its full-scale offensive against the Winter Line as the 142d Infantry makes steady progress against the enemy on Monte Lungo.

-The 112th Cavalry (reinforced) establishes a beachhead on the Arawe Peninsula of New Britain Island.

16 Dec - The 142d Infantry completes the capture of Monte Lungo. As a result, the Germans begin a withdrawal along the VI Corps front.

17 Dec - San Pietro, Italy, is taken by elements of the 36th Infantry Division. The town had been an enemy stronghold prior to the fall of Monte Lungo.

19 Dec - The Arawe airstrip on New Britain is captured.
-Army troops occupy five Western Electric Company plants in the Baltimore, Maryland, area following a week-long strike by workers demanding segregated restrooms.

24 Dec - General Eisenhower is appointed Supreme Commander, Allied Expeditionary Force.

-President Roosevelt announces that there are 3,800,000 American servicemen overseas.

25 Dec - The 164th Infantry, Americal Division, arrives on Bougainville. The Americal Division is scheduled to relieve the 3d Marine Division, which made the initial assault on Bougainville.

26 Dec - All enemy resistance ends on Monte Summucro, thereby providing the Allies access to Highway 6 and Mignano Gap.

27 Dec - The Army seizes control of the nation's railroads because of plans by several rail workers' unions to strike, beginning 30 December.

This chronology was prepared by Mr. Edward N. Bedessem of the Center's Historical Services Division.

A French Military Historian in the Gulf

Frederic Guelton

This article is derived from a paper Colonel Guelton presented to the special DESERT SHIELD/DESERT STORM session of the 1992 Conference of Army Historians in Washington. Dr. Judith Bellafaire helped edit the article for Army History.

The somewhat cryptic title of my article deserves a short explanation, to better enable my American readers to understand my experiences in a French context. I stayed two short weeks (30 March-13 April 1991) in the Gulf; first in Riyadh, then in King Khaled Military City, and later in As-Salman (Iraq) and Kuwait City. Although my short mission took place after the ground battle had ended, it represented a "first" in the history of the French Army, which until then had never been actively involved in collecting the written and spoken memories of its troops straight from the battlefield.

Unlike what has been happening in the United States Army since the end of World War II, there currently is no operational military history detachment (MHD) in France, either in peacetime or in war. The law pertaining to archives requires that all military documents be turned over to the Historical Services every five years during peacetime and every three months during periods of war or military intervention. The law thus discourages the concept of an "active" collection whereby historians solicit information through surveys, questionnaires, and oral interviews. The resulting collection is "passive"; it contains only those documents indiscriminately sent to it.

Because of its technical nature, audiovisual material is often created by the official Service Cinematographique des Armees (ECPA), or Army Cinematographic Service. For this reason, the production of any document emphasizes the media aspect of an event, rather than the approach necessary for a more historical study. It is useful only in particular situations or within the framework of a historiographic approach.

The historical memory of French Army museums uses only facts and therefore essentially is based upon individual acts. Although some museums own unique collections, there is still a danger that serious gaps may result from the absence of an official collections policy. In short, in the French Army the collection and the safekeeping of various types of battlefield records depend more upon individual initiative and determination than they do on a previously organized system. The

French Army, therefore, has perfectly mastered the most efficient system that was ever invented; its name is *le systeme D*, (a sort of French do-it-yourself).

Let me now describe the conditions under which I was given my mission. When a soldier receives his mission, he usually wants to know who ordered it so that he can prepare himself mentally. Unlike most soldiers, I had never received a clear definition of my mission. Upon my arrival in the desert, I found myself standing outside the tent of General de Brigade (major general equivalent) Bernard Janvier, the commander of the French Division "Daguet," without actually knowing what my mission was supposed to be.

In retrospect, I am almost certain that my departure to Saudi Arabia was for the most part made possible by the indirect action of an American MHD in the Gulf. A U.S. Army military history detachment had worked a few times inside the Division Daguet, and General Janvier, who is fond of history and aware of the importance of keeping records, became worried when he realized that there were no French Army historians in the Gulf.

His concern resulted in a telephone call to my office at the Historical Services Central at the Chateau de Vincennes near Paris. "Guelton, how about Saudi Arabia, are you interested?" I was asked. I simply answered "yes," and a few days after that I was flying to Riyadh.

Although this quick description of the origin of my mission may seem trivial to some of you, I believe it demonstrates the possibilities and even the necessity of conducting historical and ethnological studies within those military institutions wishing to know themselves better. Hence the maxim: "Learn to know yourself first!"

Since I had complete freedom of action during the short preparation period for this mission, I decided to stress oral history. I took the equipment which I believed would be necessary to be self-contained for about ten days in the desert or in town, for I knew that I would be arriving in the midst of Ramadan. I selected as my main tools two small tape-recorders, two microphones, a supply of batteries and tapes, several notebooks, and some writing tools. I didn't know yet how I was going to operate since I had not received instructions regarding my objectives once in the field.

Throughout this assignment I worked hard to get as many testimonies as possible and to spread the word that nothing would be destroyed in the field, but rather sent

back to France and given in due course to the SHAT (French Center of Military History).

As soon as I got to the French Combined Forces headquarters in Riyadh, the problem of subordination and the freedom of action of the military historian on a mission was raised. My arrival was totally unexpected by some people (it was expected that I would go directly to the Daguet headquarters, rather than Riyadh). I was welcomed at one of the offices in headquarters by this bitter remark: "Ah, if only you had come earlier, I've just chronicled the whole timetable of the engagement, you could have done it for me!"

Upon reflection I decided that as far as subordination is concerned, two types of military historian should exist. The first type should work at a major headquarters and be subordinated to his commander. He should have, among other functions, the mission of chronicler for the troops. He should also serve as a "historical adviser" to his command.

The second type of Army historian should be responsible only to the Army's historical department. The working relationship that these historians have with the units to which they are assigned should be motivated entirely by professional courtesy and military rules of etiquette. In theory this may seem simple, but in practice it requires that the Army historian be a true diplomat skilled in dealing with people, for he will often be considered as an "outsider" by the units with which he works. In this case I think it would be better whenever possible for the historian to be a professional soldier rather than a reserve officer, because the former should be better able to handle the numerous psychological demands of the moment and to avoid irreparable blunders.

Several theoretical questions are raised when thinking about the collection and utilization of historical information and testimonies. Should they be made accessible to superior authorities, in which case the person giving the information may be tempted to censor his account and largely reproduce the official position? If these records are officially classified as archives, they will be rendered inaccessible for a few dozen years. Should we, then, think of a compromise in which information would be given anonymously to the headquarters in order to preserve the efficiency of the present oral information-keeping system, while at the same time protecting the individuals from their own hierarchy? In this case the historian/officer would be partly transformed into a type of chaplain hearing confession.

I was pleased to leave the French Combined Forces headquarters and get on a plane for the flight to King Khaled Military City. Upon my arrival, I received a warm

welcome from a corporal of the Foreign Legion. He said something very interesting, "We Frenchmen have a great war cottage industry here, but the Americans have a great war machine!"

I got even more comfort from General Janvier's welcome. Janvier literally opened all doors for me and impressed upon me the fact that my mission really was important. "We must keep the memory of our military heritage," he said "but here in the Joint Operations Center most of the orders given are verbal orders. If no one is interested in preserving them, they definitely will be lost. Similarly, documents of no further use may be destroyed before we return to France. That's why I asked the SHAT for help."

Arriving just as the ground war ended, I was in a position to carry out only what I refer to as a "half-mission." However, I was able to collect evidence at the point where the tension of the fight had disappeared but while the recollection of the facts was still fresh and precise in peoples' minds and not yet embellished. Consequently, I decided to collect as much evidence as I could and to "spread the word," asking people not to destroy anything on the spot (map overlays, rough copies of messages), but rather to bring everything back to France and to hand it over to the Historical Center. Since General Janvier gave me total freedom to organize my work in the way I wanted to, my intention to collect mainly oral evidence remained firm. However, I still had to define what I meant by oral evidence and to decide what categories of people I wanted to interview.

At the very least I decided to talk to the division commander, his chief of staff, and all the executive officers in the Operations Center at division headquarters. At the battalion level I spoke with all the commanding officers, as well as with some of the other officers, noncommissioned officers, and soldiers. Then, depending upon my remaining spare time, I planned to go "hunting," at random, trying to find some "treasures."

I had no preconceived idea of what questions to ask and since I am not a sociologist, I decided not to establish a standard questionnaire. Instead, I let the person I was speaking to talk freely. In this way each of them, from the general to the simple soldier, could tell me about "his war." Later, depending upon the subject's initial statements, I tried to go into more detail using precise questions. I asked only two standard questions. The first one concerned fear and death, and the second asked the soldier what two events had the greatest impact on him during his stay in the Gulf. I also tried to discover whether any officers wrote a diary while they were in the region. Unfortunately, I only located one Gulf diarist.

By the end of my stay, which I could have easily and profitably extended, I had recorded thirty-five hours of oral evidence collected from the people previously mentioned. In addition to these, I also interviewed the chief of the electronic war detachment of the Daguet Division; the chaplain of the 2d Foreign Legion Parachute Regiment; an American Army chaplain; Lt. Gen. Michel Roquejoffre's private secretary; a couple of French officers who were responsible for the prisoners' camp in Raffia; the detachment chief of the beach mine-clearing operation in Kuwait City; and finally, an American MHD commander named Maj. Christopher Manos, with whom I had an interesting exchange of views.

In addition to oral evidence, I also brought back to France some documents which I gleaned here and there. A few examples of these include the translation of the diary of an Iraqi officer, captured by the French, from the 3d Battalion of the 843d Infantry Brigade, which was appointed to defend the As-Salman base; a copy of a handwritten document belonging to General Janvier, relating the life and impressions of this general from the time of his nomination as the commander of the Daguet Division to the end of the ground battle; two copies of the minutes of the 3 March and 10 March meetings between the allied and Iraqi delegations about the cease-fire and the imposition placed upon Iraqi military flights; and a set of ten documents written by General Roquejoffre's private secretary. These "information" type papers deal with Ramadan, the problem of the Scud and the Patriot missiles, the prisoners' treatment according to the Islamic faith, fundamentalism in Arabia, Mutawas, the Arabic language, selected words and codes of conduct in the Arabic civilization, the slander against foreigners, and the evolution of the tensions between Palestinians and Israelis.

No doubt I could have discovered much more. Unfortunately, it was decided in Paris that I had enough first-hand exposure, and I was forced to leave the Gulf after only two weeks.

Some Impressions

The following comments represent a general and condensed account of my findings in the Gulf. Although they often express the personal feelings of the person to whom I have spoken, I believe that they are significant, if only because they have been written down nowhere else.

On a strategic level: The use of professional troops for this type of fighting has proved essential. It has also been determined that the lessons drawn from this fighting could lead to further studies on the deployment of a force in central Europe in a few years' time: a military force of

20,000 men composed of professional armored and air-mobile divisions.

At the headquarters level: U.S. forces appear to place a greater reliance on preplanning than upon "hot planning" during operations DESERT SHIELD and DESERT STORM. Preplanning is relatively rigid and, once launched, resembles an assembly line which nothing can or should interrupt. In that respect, it is interesting to draw a parallel between the unfolding of DESERT STORM and Operation OVERLORD during World War II.

Logistics: Logistics can be a tyrannical mistress. In this case, the constant influx of materials from France and the transport network within the theater depended upon the quality of the maintenance efforts carried out by the soldiers themselves. Unit professionalism, and the fear of having one's weapons or one's vehicle break down during the fighting, were an exceptional motivation for all the soldiers. Except for punctures, which were a normal occurrence, the equipment was nearly 100 percent operational, thanks to the care taken by the men.

In the regiments: The necessity for adequate numbers of foot soldiers in the infantry regiments became evident when the idea of organizing decontamination lines was considered and when it became necessary to guard hundreds of prisoners.

With the tension building before the beginning of the ground attack, one of the commanding officers, also acting as a registrar, celebrated 25 weddings and received 257 wills in the last three days before the battle began.

The cavalry and the artillery showed that the French Army abroad was writing a new page in its history. Indeed, since the end of the Algerian war in 1962, the light infantry had traditionally dealt with overseas crises on its own, but now was no longer necessarily able to do so—tanks and supporting elements have become a necessity.

Among the engineers, the differences between American engineers and their French counterparts surprised many French sappers. The French placed more emphasis upon the combat engineering, while American engineers were seen by the French as similar to a giant civil engineering firm.

The Iraqis: Never did I feel or hear a single word of anger or hatred against the Iraqi soldiers. I recall the story of the arrival at the Raffia prison camp of the first Iraqi officer. He was separated from his men by the French officer in charge, according to the Geneva Convention. The French officer then saw the panic in the Iraqi officer's eyes. Asked what the matter was, the Iraqi answered, "Since I am an officer, you separate me from my men because you are going to kill me!" His surprise over, the French officer explained in a few words that prisoners of

war were treated according to international conventions.

Daily life in the Gulf: I will end this survey with a few words on the daily life of the French soldiers in the Gulf. Isolation, heightened tension, the absence of contact with locals, and the prohibition of alcohol created a unique atmosphere which corresponded to nothing experienced before, even for those who were used to overseas missions. There were no evening gatherings, no singing at dinner, no fights, and no wrangles over girls. In the words of one soldier, "It is as if everything happened on another planet, between quiet children." Many soldiers never met any of the Saudis or a Kuwaitis whom they had come to free. In the evening between 2100 and 2200, when the heat was still strong, everybody quietly went to sleep. After the first Scud scares, very few soldiers were concerned when the alarm went off.

The Role of Military History Detachments in War— A French Point of View

I believe, of course, that the role and the position of history and military historians are very important, if not essential to an army. In his preface to the *History of the Second World War* by B.H. Liddell Hart, General Beaufre said "In the military field, the truth, not that of the past but the one that will be proved later, generally cannot be unearthed through the official channels which are too conformist. Consequently, it is very important that private researchers should be able to give free rein to their imagination and to their initiative."

Ideally, the French historian can be free to use one's imagination and initiative, because historical research, if conducted correctly, encourages one to be open minded. Yet, although France is a country rich in history, its military historians are in a far from idyllic situation. Why? To understand the paradox, one has to recall the military failure of 1940 and the implications of French nuclear deterrence under the Fourth and Fifth Republics. Some in France openly mocked the concept of military history, arguing that the so-called lessons of World War I did not help us avoid national humiliation in 1940. Moreover, other Frenchmen continued, the nuclear age rendered military history useless. These two ways of thinking result from an erroneous and truncated approach to the study of history—one that does not go beyond "lessons learned."

Some intellectuals reject the entire concept of history. According to the argument developed by Paul Valéry in *Regards sur le Monde Actuel*: "History justifies anything you want. It does not teach anything, for it contains everything and gives examples of everything. It is the most dangerous material that the intellect has ever

produced."

A more global definition of the role of history and of the military historian (or MHD) within an army in peacetime and in war has been alluded to by the historian Marc Bloch, the founder of the *Annales*, in *L'Étrange Défaite*:

I've always thought that the most important duty for a historian, as my master Pirenne said, was to be interested in life. The particular attention that I have given the countryside problems in my works, has totally convinced me that, without paying attention to the present, it is impossible to understand the past.... Writing and teaching history has been my profession for the past thirty-four years. It forced me to thumb through many different documents to find out, as best I can, what is true and what is not, to watch things and to observe a lot too... Good eyes to notice the shape of fields are no less useful than a good ability to decipher some old scrawls. These are the same habits of criticism, of observation and, I hope, of honesty, that I have tried to apply to the study of the tragic events in which I happened to play a very small role.

Unfortunately, history is often used after the fact to justify theories or to describe the simple development of things, without the slightest research or critical examination of the sources. My mission, while only half a tactical success, was strategically useful because it led to a realization of the urgent need to preserve our heritage.

Consequently, I think that what is happening in Yugoslavia, for example, has to be considered carefully as a crisis in which French troops might have to intervene. In such situations, the few French military historians currently available could probably fulfill the missions they would be given. In the event of a more significant intervention, the present number of military historians may not be sufficient, but it might be possible to consider resorting to volunteer reservist historians to create the necessary number of military history detachments.

Their missions would consist mainly of the systematic preservation of everything which will, in time, allow us to re-create a true image of the conflict, with its successes and its defeats, its heroic moments as well as its ignominious troughs. The historian, lulled by the rhythm of the units with which he is billeted, should guard against the temptation to turn into another representative of the "French Army fan club." That mission, albeit necessary, is the responsibility of someone else.

On the other hand, the military historian should gather and keep all existing documents (official and private); conduct on-the-spot surveys; collect testimonies, photographs, and films; and compile "historical"

reports, classified and addressed to the highest-ranking authorities. Finally, it is also important to try to keep as many captured enemy documents as possible, since they represent a fundamental element of the conflict and of our ability to understand that conflict years later.

Conclusion

Unfortunately, the current activities of the French military historian remain very much those of a cottage industry. While the creation of a French military history detachment from available human resources is undoubtedly feasible, it would be an imperfect answer to the broader question of the proper place and role of the military historian alongside the decision maker. This relationship is important, because a properly trained military historian can free the decision maker from the influence of his time, place, and background, so that he may detach himself sufficiently to make his decisions.

Unfortunately, the awareness of the potential richness and originality of the historian's contributions is difficult to sustain among a fast-changing world of decision makers, all of whom are seeking new certainties, not to mention new truths, and many of whom cannot accept

the vague, complex and sometimes unspecified appearance of the answers given by the historian!

Yet, the only "lesson" that history can give remains somewhat veiled. History, by fostering an understanding of human phenomena gives to those who are willing to hear it a lesson in modesty and a respect for the unexpected element in every action and human decision. It also helps man to face the unknown world the future represents, and condemns the one who thinks he can ignore it, seeing it only as "learning lessons from the past" and consequently, rewriting the past in the wrong way. As Raymond Aron wrote (*History and Dialectic of Violence*, transl. Barry Cooper, 1975) "Granted, the historical past can no longer be other than what it has been. But even so, an event does not become necessary with regard to all that has preceded it simply because it has taken place. Between freedom and necessity there is no *post eventum* reconciliation except by what [Henri] Bergson called the 'retrospective illusion of fatality.'"

Lt. Col. Frederic Guelton is head of the History Department, Ecole Speciale Militaire de Saint-Cyr.



New Center of Military History Publications

The new U.S. Army Center of Military History publications brochure will be printed within the next few months. In the meantime, readers of *Army History* may want to note the following list of new publications, along with CMH Pub numbers, GPO stock numbers, and ordering information:

NEW PUBLICATIONS:

Adamczyk, Richard D. and MacGregor, Morris J., Jr., *United States Army in World War II: Reader's Guide* - GPO S/N 008-029-00251-5 (Paper), \$10.00. CMH Pub 11-9.

Anderson, Charles, *Papua* - GPO S/N 008-029-00235-3, \$1.00. CMH Pub 72-7.

Anderson, Charles, *Guadalcanal* - GPO S/N 008-029-00259-1, \$1.00. CMH Pub 72-8.

Anderson, Charles, *Algeria-French Morocco* - GPO S/N 008-029-00260-4, \$1.25. CMH Pub 72-11.

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The Archaic Archivist

One practical application of amphibious warfare occurred fifty years ago, as the Allies moved out of liberated North Africa and crossed the Mediterranean Sea to invade Sicily and southern Italy. The resulting campaigns—up to the capture of Rome in June 1944—received considerable representation in the printed, pictorial, and papers holdings of the U.S. Army Military History Institute. This article describes some of the manuscripts. Researchers are, as usual, reminded to contact the Archives Branch for additional manuscript sources and also to get in touch with the Historical Reference Branch and the Special Collections Branch of the institute for library and curatorial materials, respectively.

Operations in Sicily, Salerno, Anzio, and southern Italy are covered in the papers of many senior officers. At the division level, the institute has the personal correspondence of Maj. Gen. Terry D. Allen of the 1st Infantry Division; excerpts from the diary of Maj. Gen. Fred L. Walker of the 36th Infantry Division (Office of the Chief of Military History [OCMH] Collection); the wartime papers and oral history of Maj. Gen. (later General) Matthew B. Ridgway of the 82d Airborne Division; the oral history of Brig. Gen. (later General) Maxwell D. Taylor of the 82d; the memoirs of Maj. Gen. John B. Coulter of the 85th Infantry Division; the papers of Maj. Gen. John E. Sloan of the 88th Infantry Division; and the reminiscences of Maj. Gen. Ernest N. Harmon of the 1st Armored Division.

Corps command is reflected in the papers of Maj. Gen. (later General of the Army) Omar N. Bradley of the II Corps; the papers of General Willis D. Crittenger of the IV Corps; and the diary-memoir of Maj. Gen. John P. Lucas of the VI Corps. The oral history transcript of Lt. Gen. Mark W. Clark and the "summary of events" memoir of Maj. Gen. George S. Patton, Jr., cover their command of the Fifth Army and Seventh Army, respectively. The oral history transcript of Lt. Col. Theodore J. Conway of the 60th Infantry Regiment and the papers of Col. Donald Currier of the 93d Evacuation Hospital shed light on the so-called slapping incident involving General Patton. General Lucas' writings also focus on his earlier service as deputy commander of the North African Theater. At still higher level, Dwight D. Eisenhower's "diary" for the autumn of 1943 (OCMH Collection) contains his letters to Army Chief of Staff

George C. Marshall.

Complementing these resources are the papers of some of their senior staff officers. Two excellent diaries at high headquarters were written by Brig. Gen. Hobart R. Gay, chief of staff to General Patton, and by Maj. Chester B. Hansen, aide-de-camp to General Bradley. Other important bodies of wartime material include the papers of Brig. Gen. Arthur S. Nevins at 15th Army Group headquarters, the papers of Brig. Gen. Richard B. Moran, Brig. Gen. John W. O'Daniel, and Col. Robert J. Wood at Fifth Army headquarters, and the documents of Col. Stanhope B. Mason, chief of staff of the 1st Infantry Division. General O'Daniel's key role in the training, planning, and implementation of Operations HUSKY, AVALANCHE, and SHINGLE make him particularly pertinent to the study of amphibious operations in World War II.

Besides donating their contemporary papers, General Gay and Colonel Wood took part in the World War II oral history program. Oral history transcripts are also available for the following staff officers from the Mediterranean Theater: Lt. Col. Theodore J. Conway at Allied Force headquarters and 18th Army Group headquarters; Brig. Gen. (later General) Lyman L. Lemnitzer and Lt. Col. Charles H. Bonesteel at 15th Army Group headquarters, Col. Robert A. Hewitt and Col. Robert W. Porter at II Corps headquarters, and Col. Ben Harrell at VI Corps headquarters. Still other officers at senior headquarters wrote memoirs of their service: Brig. Gen. Garrison H. Davidson and Col. Oscar W. Koch, Seventh Army; Col. Benjamin A. Dickson, II Corps; and Col. Ralph P. Eaton, 82d Airborne Division.

Another splendid collection of recollections includes the interview notes with prominent American and British officers in the Mediterranean Theater which were gathered for *Sicily and the Surrender of Italy*, which Albert Garland and Howard Smyth wrote for the official history of the United States Army in World War II. These notes and other related source materials are found within the OCMH Collection. That collection also includes an unpublished study by Magna E. Bauer on "Axis Tactical Operations in Sicily, July-August 1943." Documentation (including interviews and correspondence with participants) for more recent books—*Ridgway's Paratroopers* and one on General Bradley—is found in the collection of the military

historian, Clay Blair.

The institute does not confine its holdings to the papers of prominent personages, but welcomes source materials from junior officers and enlisted personnel. The World War II Survey is particularly useful in bringing in such accounts. Concentrated appeals, through the survey, to veterans of the 1st Armored Division and of the 1st Infantry Division, have gathered eleven boxes on each unit. The survey will focus subsequently on other divisions of the Fifth and Seventh Armies, but already it has netted two boxes each on the 9th, 34th, and 45th Infantry Divisions, and one box apiece on the 2d Armored Division, the 82d Airborne Division, and the 3d, 36th, 85th, and 88th

Infantry Divisions, as well as material on some of the other components of those armies. Besides these donations to the survey, the general run of archival holdings contains many such papers, including the memoirs of Lt. Col. Wiley H. O'Mohundro of the 1st Armored Division, and Cpl. John J. Roche of the 88th Infantry Division.

This wide range of archival sources sheds much light on the planning and execution of amphibious, ground, and airborne operations in the Mediterranean Theater from the invasion of Sicily to the occupation of Rome. This material is available at the institute for historical study.

Highlight on a New Center Publication, *The Army Medical Specialist Corps, the 45th Anniversary*

In July 1993 the U.S. Army Center of Military History published a commemorative honoring the forty-fifth anniversary of the Army Medical Specialist Corps. The text addresses the service of dietitians, physical therapists, and occupational therapists in the Army Medical Service/Department from 1898 through 1992, including service in World Wars I and II, the Korean and Vietnam conflicts, and DESERT STORM. The text also includes the transitioning of physician assistants as a fourth professional specialty into the corps in 1992. This 64-page popular history is of interest to the general public, medical professionals in the Army, Navy, Air Force, and Public Health Service, as well as to medical historians and individuals pursuing women's studies.

Written by Col. Ann Ritchie Hartwick, the text is accompanied by color photographs, a chronology, a list of key corps personnel, bibliography, and reproductions of insignia.

Army account holders may order this publication (CMH Pub 85-2) from the U.S. Army Publications Distribution Center in Baltimore, Maryland.

Call for Papers

The Historical Miniatures Gaming Society of North America (HMGS) will hold its Cold Wars 1994 Military History Forum 10-12 March 1994. Papers dealing with any aspect of military or naval history in any period are acceptable for submission. Papers will be reviewed in a blind referee system for scholarship and value as a contribution to the study of military history. Authors of selected papers will be asked to present their work in March to the forum at the Lancaster Host Resort in Lancaster, Pennsylvania. Selected works will be published in the *1994 HMGS Military History Forum Proceedings*.

Papers should be ten to fifteen typed double-spaced pages and three copies should be submitted, along with a 100-word abstract on a separate sheet. The author's name and address should appear only on the abstract. Complete citations and a bibliography must accompany each copy. Any maps or art work must be fully identified.

Papers should be submitted no later than 1 November 1993 to Editor, *MHGS Military History Forum Proceedings*, 4252 Woodland Drive, Augusta, GA 30907. For more information, contact the MHGS editor at the above address.

Reflections on Writing the Green Books

Robert F. Coakley

This article is derived from a paper Dr. Coakley presented to the 1992 Conference of Army Historians in Washington. Dr. Judith Bellafaire edited the article for Army History.

I undertook to make this presentation with no little apprehension, for it was my first public appearance since I suffered a stroke in 1985. However, I was sufficiently tempted by the kind invitation to participate that I succumbed, welcoming the chance to associate on a panel with old colleagues and perhaps to make myself known to a new generation of Army historians.

Having determined to appear, I soon found myself committed to a much more ambitious role than I had expected. When some of us got together with our chairman to discuss our respective presentations, I suggested that one of us should deal with the general topic of philosophy, process, and method in the conception and execution of the "green book" series, rather than with his individual contribution, that is, with what I would call the "Greenfield system" conceived by Kent Roberts Greenfield, chief historian from 1946 through 1958 and in my judgment the principal architect of the series, the U.S. Army in World War II. I did not make this suggestion with the idea of undertaking the task myself, for I do feel inadequate to the task, but when one makes a suggestion of this sort, one usually winds up with the burden of fulfilling it, and so it seems I volunteered in defiance of the old Army axiom. I have tried to carry out the assignment I hoped someone else would do.

In doing so I rely only marginally on my own memory, for I was not present at the creation. I joined what was then the Historical Division, War Department Special Staff, in the fall of 1948 as a quite junior member of the firm, some time after the master plan was developed and most of the policies and procedures for carrying it out were in place. I did in the end become the coauthor of two green books and was associated in one way or another with many others, having been a member of about ten review panels for ten green books, of which eight ultimately were published. However, in this presentation my reliance is principally on two sources which I commend to your attention if you are really interested in the genesis and execution of the green book series. The first of these is Stetson Conn's *Historical Work in the U.S. Army, 1862-1954*, unpublished but, I believe, given

wide distribution throughout the Army. Col. John Jessup and I tried to present the gist of Stet's account in chapter twelve of the *Guide to the Study and Use of Military History*, but it is a very abbreviated version, particularly as regards the U.S. Army in World War II series. My second source is a little book published by Dr. Greenfield in 1954 called *The Historian and the Army*, in which he briefly states his philosophy about what the series ought to be, although much of the book is devoted to the results of research upon it to the date that he wrote.

In any case, in this book Greenfield makes two claims for the series that are worth noting: first, that it was "the first sustained effort to produce a systematic history of our military services in war," and secondly that it was, in conjunction with that of the Navy's series and that of the British, "the largest attempt in the field of contemporary history that is being made in our time." This ambitious mission was first conceived to require a series of some one hundred-odd volumes. While it has never reached that number, I do believe that today we have something over eighty.

Now, I do not wish to go into the specific contents of the series as originally planned nor the division of responsibility for the various subseries. Suffice it to say that the Air Force volumes were in the end done separately by historians working with the Air Force quite outside of Historical Division, War Department Special Staff, supervision. The Technical Services volumes were done mostly within those services and under loose War Department historical supervision. Almost everything else fell under Historical Division jurisdiction and was subject to the Greenfield system, so what I want to deal with is the philosophy, method, and process under that system.

As Dr. Greenfield put it in his little book, the biggest challenge was that of making the official history "honest." "How," he asked "can any agency of the government avoid issuing self-serving declarations or be expected to make clear statements of fact that its officers regarded as contrary to their own interests?" Greenfield says he told Dwight D. Eisenhower, then Chief of Staff of the Army, that three conditions were necessary if the history was to be both complete and honest: (1) freedom of access to all records necessary to write a comprehensive history; (2) freedom of the historians to call the shots as they saw them; and (3) individual responsibility for the author, signed and sealed by putting his name on the

book. The directive issued by General Eisenhower on 20 November 1947 met the first two of these conditions; "the history of the Army in World War II now being prepared," he said, "must without reservations tell the full story of the Army's participation fully documented with reference to the records used." He charged all members of the Army staff with facilitating the historians' access to the necessary records and stressed that the directive was "to be interpreted in the most liberal sense without reservations as to whether or not the evidence of history places the Army in a favorable light."

This directive became the charter for the historians being assembled to work on the World War II series and indeed for the Army Historical Program for other wars. The procedures and methods for achieving the goals were evolving even as the directive was issued. One of the first things, of course, was the matter of realizing Greenfield's third point that the historians employed by the Army to prepare these volumes should have freedom to shape them in the same manner that academic historians did and should have full name credit for the volumes they prepared. This was not only a departure from traditional government practice, but also rather different from contemporary Navy procedures in preparing its volumes on World War II. Previously, almost all government historical work had been published anonymously or with very limited author credit or stated responsibility. I do remember that when I first considered joining the Historical Division I was urged not to do so by one of my mentors in Virginia history, Dr. E. G. Swem, librarian at the College of William and Mary, saying that I would never get credit for anything I did in government service. So this matter of name credit was certainly a powerful argument appealing to most of us who joined in the green book enterprise. As I have noted, this policy of giving name credit to those who wrote the individual volumes was quite in contrast to the Navy system where the people who did the research and initial drafts turned them over to Admiral Samuel Eliot Morison, who received credit for authoring all the volumes in the Navy series. I always thought there was some injustice in this, particularly to people like Roger Penoe who I suspect penned many of Morison's immortal lines.

Now, who were these people who were recruited to do the Army volumes? For the most part they came from the theater historical sections, where they had been initiated into military historical work while in uniform or had been similarly initiated while working in the War Department or Zone of the Interior commands and technical services. Most often they were products of the interwar graduate schools where war itself as opposed to causes

and results was not considered a worthy subject of study. Only Hugh Cole and Phil Crowl had any prewar experience as military historians, and few of us had any substantial historical publications, military or otherwise, to our credit. So for the most part we had to learn by doing. I think this quote from Stet Conn's work says it well:

Lessons from early volumes led to the development of explicit standards and objectives for the series. A necessary uniformity in style was obtained by preparation of a style manual for series volumes.... All authors of series volumes within and outside the Historical Division were expected to adhere to accepted standards of historical scholarship and methodology. Their works were to be fully documented not only to indicate the sources on which they relied but also to provide the reader with a guide to the documents. While keeping in mind that the series had been conceived as a work for training and reference, authors were expected to write their books in clear and common English. Full responsibility for authorship was to be recognized by placing the author's name on the title page and spine and inclusion of a signed author's preface. That signature meant that nothing had been included in his book nor any changes made in its language without his consent. The Army faithfully adhered to a policy of never publishing a censored or sanitized version, recognizing that documentary evidence was frequently inadequate. Authors were urged to interview participants. Moreover, draft manuscripts were circulated widely to obtain as much criticism as possible from both participants and other historians. Both authors and Army history were protected by a basic rule against changing any statement of fact unless new and convincing documentary evidence was produced.

Maj. Gen. Harry J. Malony once reinforced this by stating that the books must not be used by participants as "platforms to retroactive greatness."

And what was deemed to be the audience for the series? Here I will paraphrase rather than quote Conn: authors necessarily had to keep in mind it was intended primarily for Army use—for the instructors in Army schools, for the student officer educating himself for a position of leadership in another war. But the books were also intended, as Greenfield once put it, "for a broader professional scholarly public" and "a general but limited public of thoughtful citizens." The volumes were not expected to be popular histories nor, to quote Greenfield again, "bedtime reading for anybody." Content was to be confined to topics of Army-wide interest and to subject matter of sufficient interest for it to be useful to the Army

to know about for a half century or more. Authors were not to try to cite "lessons learned," but to get the facts right with some analysis and interpretation, so that the reader might draw his own lessons therefrom.

In the pursuit of these standards and objectives there are two institutions or practices started by Dr. Greenfield that I would like to take note of: seminars and review panels. Greenfield established the seminars on a model he had developed as chairman of the History Department at Johns Hopkins. For each seminar an author submitted what he considered a polished and properly documented piece of thirty or forty pages written for use in one of the volumes. This paper was reproduced and distributed a week in advance and read critically by at least a dozen individuals, i.e., the chief historian or his representative, a member of the editorial staff, some of the author's peers, and knowledgeable individuals outside the office—including participants. The author was present at the seminar meeting and had to listen to his work being picked to pieces.

Now to the review panel system, the method of reaching a final judgment on whether the author's work was acceptable and publishable. When the author finished his draft and the chief historian judged it ready for review, the whole manuscript was reproduced and circulated. The chief historian then convened a panel of experts over which he presided, but at which the author was not present. The chief historian or his representative conducted the panel under a standard agenda which was still in use in 1980 when I retired. The panel normally was composed of a high-ranking officer from the office responsible for "military sophistication," an editor, several of the author's colleagues working on volumes in the

same general area, several participants (usually general officers), and usually one academician. Panel members as a rule submitted written comments as well as participated in the panel discussion. Simultaneously, the manuscript was distributed to other participants and interested persons who submitted written comments. On the basis of the panel discussion and the written comments, the chief historian then prepared an elaborate critique outlining for the author what further work might be necessary before the manuscript would be ready for publication. When the author completed his revision he submitted it to the chief historian who, if he decided it was ready, recommended to the chief of military history that the manuscript be accepted for editing and publication. Once approved by the chief of military history, the manuscript was turned over to the editors who, working closely with the author, gave the work its final literary polish. Upon completion of the editorial process, the manuscript went to the Government Printing Office for publication, a process no more hurried than had been the process of production at the center.

Perhaps it is not surprising, therefore, that the production of volumes in the series stretched out over the period of more than forty years rather than the five years expected at the onset. But my objective is to describe, not to give a critical analysis. The users of the volumes will have to draw their own lessons learned about the process and method, as well as from the contents of the green books.

Dr. Robert F. Coakley is the former deputy chief historian at the U.S. Army Center of Military History.

General William M. Hoge's Memoirs Available

Engineer Memoirs: General William M. Hoge, U.S. Army, the sixth publication in the Engineer Memoirs series of career interviews, is now available from the Office of History, U.S. Army Corps of Engineers. With the publication of the William M. Hoge interview, the Office of History begins a series of interviews with distinguished World War II Corps of Engineer generals. Maj. Gen. George Rogers Robertson, USA (Ret.), conducted the interview of General Hoge, based on a series of conversations in January and April 1974. Dr. Barry Fowle of the Office of History edited and prepared the interview for publication.

The All-Volunteer Army After Twenty Years Recruiting in the Modern Era

Thomas W. Evans

1 July 1993 was the twentieth anniversary of the all-volunteer Army. In the early 1970s, many doubted that the Army could survive a transition from a conscripted to an all-volunteer force. The passage was painful at times, but that Army did succeed. As the Army once again faces a period of drastic change, the following article is particularly relevant. It is adapted from a paper by Mr. Thomas W. Evans, formerly with the Headquarters, U.S. Army Recruiting Command, Fort Knox, Kentucky. Mr. S. Douglas Smith, public affairs officer with that command, submitted his paper to Army History.

The modern era of recruiting originated with Richard M. Nixon's 1968 political campaign promise to end the draft. It was shaped in 1970 by the Gates Commission Report, which charted a course for maintaining military strength without conscription. Over the next three years the Army's end strength dropped from 1.3 million to about 780,000—a level that prevailed throughout the 1970s-1980s. The Army raised entry-level military pay to attract the new level of recruits. In spring 1971 national media advertising began with a television campaign. The recruiting forces were augmented as Project VOLAR, a somewhat controversial experiment in improving the soldier's quality of life, was initiated.

These specific actions were part of the Modern Volunteer Army (MVA) Program, designed to strengthen professionalism, enhance Army life, and develop a modern accession system. These actions proceeded on a timetable geared to Secretary of Defense Melvin R. Laird's decision that all-volunteer recruiting should begin on 1 July 1973.

The last man was drafted in December 1972 and reported for training in June 1973. Over 180,000 young men and women enlisted in each of fiscal years 1973, 1974, and 1975, exceeding the U.S. Army Recruiting Command's non-prior service missions. At first the MVA Program seemed successful, but recruiting difficulties in subsequent years changed that perception sharply. The reasons for ending conscription and the controversies surrounding this action, e.g., the quality, representativeness, and motivation of volunteer soldiers, continue to be relevant because they involve ongoing public policy issues. The difficulties faced by the United States Army Recruiting Command in the late 1970s and

the steps needed to overcome them serve as lessons for a future in which the Army must succeed in its mission, despite conditions of undoubtedly greater austerity.

The Gates Commission

The Gates Commission, appointed in 1969 by President Nixon, was chaired by Thomas Gates, Executive Committee Chairman of the Morgan Guaranty Trust Company and a former Secretary of Defense. Its membership included other distinguished businessmen, former military leaders Maj. Gen. Alfred Gruenther and Lt. Gen. Lauris Norstad, and a university president, W. Allen Wallis. Distinguished—and influential—scholars included the economist Milton Friedman, who had earlier advocated the application of economic market forces to military manpower acquisition and retention policy. Roy Wilkins, Executive Director of the National Association for the Advancement of Colored People (NAACP) was a member, as was Georgetown University law student Steven Herbits. The diversified composition of the commission clearly was intended to generate assurance that the popular political decision to end the draft was reasonably based.

The commission was tasked to "develop a comprehensive plan for eliminating conscription and moving to an all-volunteer force." It did so by assembling a staff of economists and manpower analysts who studied military manpower needs and how they could be met through volunteers. They concluded that a 2.5 million person force could be maintained through voluntary service if: 1) monthly compensation for enlistees was raised from \$301 to \$437, 2) there were comprehensive improvements in the conditions of military service, and 3) the recruiting effort was improved and augmented.

The commission also recommended establishment of a standby draft system, a recommendation which was not carried out, although draft registration was enacted for other reasons in 1980.

The argument for higher pay was based more on empirical knowledge of what size increase was needed to attract the necessary number of recruits than on the underlying issue of fairness. A main theme of the Gates Commission Report was that conscription imposed a large, implicit (hidden) tax not only on those who were drafted, but also on those who were coerced to enlist

because of the threat of being drafted. The report argued that military pay had to be raised, at least to parity with civilian pay, to mitigate the size of this hidden tax placed on a minority of youths who were called to serve the nation. Presumably, the problem was not that eighteen-year-olds were being taxed, but that it was a tax not all eighteen-year-olds had to pay. The "selective" part of Selective Service is what had led to its downfall.

In conducting and presenting its recommendations, the commission also developed a theoretical case for the increased cost effectiveness of a professional force. Total manpower requirements would be lower as three- to six-year enlistments replaced two-year draft stints. Fewer soldiers would have to be trained and outfitted. An increased measure of professionalism would result from longer average tours, as well as from a recommended policy of making military service more attractive by relieving soldiers of nonmilitary duties and chores.

All-Volunteer Force Controversy

The end of military conscription probably came as a relief to most members of Congress and the public at large because it removed a prime ingredient in the poisonous brew of Vietnam War issues. The system of liberal deferments which had grown up during the period of low draft calls following the Korean War had come to be seen as a means by which the most privileged members of society could avoid service. The switch to a lottery system in 1970 did not erase the sense of unfairness, merely changing the focus from victimization of the underprivileged to victimization of the unlucky.

That the public had become somewhat inured to a peacetime draft at all was a modern (i.e., Cold War) development. Pre-World War II conscription laws were all passed in wartime, under conditions approaching total mobilization, and even then were problematic, sparking riots during the Civil War and large-scale evasion during World War I. However, the Selective Service Act of 1948 instituted peacetime conscription, and by the mid-1960s the military services—specifically the Army—had become habituated to dependence on the draft as a principal means of personnel acquisition. The prospect of its end was met with resistance internally and with vocal opposition from veterans' groups and some members of Congress.

In retrospect, it seems surprising that the uniformed part of the military establishment would resist a development calculated to produce a better paid, more professional force. However, doubts about the concept ran deep and fueled what was more than a simple reluctance to abandon the status quo. On some issues political liberals and conservatives found common ground in opposition.

Grounds for criticism were several. Some have been laid to rest first by recruiting success and then by the performance of all-volunteer soldiers. Others touching on fundamental questions about the affordability of national security requirements, the role of the military in our national life, and the responsibilities of citizenship, persist to this day in various forms. The most immediate—and most emotionally compelling—concerns were based on fears that monetary incentives and concessions designed to make military life more appealing would attract people poorly suited to military service and unlikely to become good soldiers.

The early emphasis on increased pay and benefits inspired comment about a "mercenary" force of low quality people, who would enlist only for the money, rather than to serve their country. Among serving soldiers it is likely that such talk summoned up memories of "Project 100,000," an experiment begun in 1966 in which the military services had to accept conscripts who technically had failed to meet enlistment standards.

The all-volunteer force backlash probably was also aggravated by the public image of Army recruiting presented through an unprecedented advertising presence on national media. One of the first MVA actions was a television advertising campaign concentrating \$10 million worth of exposure over ten weeks in the spring of 1971.

The initial MVA advertising highlighted the higher pay benefits and attempted to alter the "Big Green Machine" image of the Army by suggesting that personnel assignments would be less arbitrary and working conditions less regimented. The notion that the Army was becoming more sensitive to the concerns of its recruits was conveyed by a provocative new slogan, "Today's Army Wants To Join You."

This advertising campaign concept was based soundly on research into the attitudes and motivations of the "target audience" of enlistment prospects. The measured impact of the television test indicated that it did do a good job of raising public awareness of new opportunities. However, the effort was flawed in important respects.

First, by underplaying some of the harsher aspects of military life it misrepresented the extent to which the life of a first-term soldier had indeed changed. Some of the early ads made enlistment seem too much like just another job. Ads designed to appeal to an interest in foreign travel could have been mistaken for civilian travel posters.

The worst of these advertisements were replaced in fairly short order, but a more fundamental problem involved the very tone of the campaign, which for Army officers and noncommissioned officers accentuated fears

of a discipline-shattering permissiveness. It is difficult to exaggerate the extent to which this advertising was disliked by serving soldiers, and it was sometimes referred to as a current problem well into the late 1970s, even though the slogan was dropped after a year and advertising introduced in 1973 took on a tougher, more realistic cast.

Although problems of undiscipline and motivation did ensue, the Army found ways to overcome them within the all-volunteer concept by being more selective in who it recruited. The right kind of volunteers, it seems, could be turned into excellent soldiers. (The notion that "mercenaries" perform less well on the battlefield than conscripts is belied by history, and the other branches of service have, with rare exceptions, been all-volunteer.) It is possible that new styles of leadership—appropriate to the 1980s-1990s—would appear "permissive" to a veteran of an earlier era, but there is no evidence that the essentials of military discipline have been compromised.

The Cost of the All-Volunteer Army

Other criticisms of the all-volunteer concept which persisted well into the 1980s involved its cost, a subject that is less clear cut than it might seem because comparative figures depend greatly on underlying assumptions. Compensation is certainly much higher than would be necessary if 40 percent of the force were low-paid conscripts. Another consequence of voluntarism is an older force with a higher proportion of married soldiers, and dependent-related expenses certainly add to total personnel costs. In addition to pay and benefits for all soldiers, the enlistment bonuses and educational entitlements needed to fill less attractive or more intellectually demanding specialties became large, visible expenses, as did the sums needed to market Army opportunities and operate the expanded recruiting establishment. Finally, the larger percentage of career soldiers that came about through the all-volunteer force has added to long-term retirement system costs.

As anticipated, enormous savings accrued from the reduction in personnel turnover due to longer enlistments. However, the prediction of the Gates Commission in this regard was confounded to some extent by the phenomenon of first-term attrition, which for some categories of volunteers could be 50 percent. Minimizing attrition by precluding the enlistment of high-risk prospects became a necessary feature of the recruiting management systems which eventually developed.

Suffice it to say, the different cost factors were so complex and so interrelated that the cost effectiveness of a volunteer force relative to a conscripted Army became indeterminable. If the "implicit" tax on young conscripts

cited by the Gates Commission is considered, it is likely that the all-volunteer force is a bargain for society. However, it is a bargain that poses for the Army the problem of using a greater share of its budget to acquire, pay, and take care of its personnel. What is undeniable is the fact that all of the cost of raising and maintaining the force became a part of the Army's budget, greatly raising the proportion of total expenditures assigned to personnel costs.

The fact that personnel-related costs climbed to 60 percent of the defense budget led some critics to charge that the high out-of-pocket costs of the all-volunteer force manpower unduly limited total Army strength. This was a matter of serious concern throughout the mid-1980s as Army planners foresaw a need to fight outnumbered in the event of a Soviet invasion of Western Europe as well as meeting the requirements of other worldwide national security scenarios.

Presumably, this constraint on Army manpower exerted a major influence on the Army's development of weaponry and doctrine. The major modernization of the 1980s gave soldiers high-performance weapons designed to offset a numerical disadvantage. Doctrine emphasized mobility and coordinated action as a means of making the best use possible of limited forces. Thus, the AirLand Battle—and the tools necessary to fight it—were in some sense an imperative of the all-volunteer force policy.

The cost issue also highlighted the role of a trained and ready reserve component, which necessarily became the focus of some of the Army's combat capability and much of its combat support. An active force big enough to perform all assumed missions was unaffordable. In fact, the dictionary meaning of the word reserve, "to keep back or set apart for later," makes its application to the non-active component somewhat misleading. As indicated during Operation DESERT SHIELD/DESERT STORM, some elements of the Selective Reserve had to be deployed very early to complete a well-rounded operational force.

Maintenance of adequate reserve component strength became not only important but particularly challenging because the large number of conscripts who served short-term active duty tours was no longer available as a ready manpower pool from which reserve units could be filled. This generated a sizable requirement for the enlistment of people with no prior military service directly into U.S. Army Reserve and National Guard units.

The added cost of increased military compensation needed to attract new enlistees also proved to be a continuing, complex issue. The entry-level wage has to be continuously adjusted as inflation and labor supply and demand factors dictate if it is to be kept competitive.

However, if the wages of first-term soldiers grow without sufficient adjustment for the upper ranks—a phenomenon referred to as pay compression—retaining highly qualified careerists becomes problematical. Less than 10 percent of those who enlist remain to retirement, but those careerists become the trainers, technical experts, and leaders upon whom the performance of Army units is heavily dependent.

Representativeness

Costs aside, the all-volunteer concept raised sociological concerns, with much of the discussion focusing on the issue of representativeness. Briefly, critics feared that an Army of volunteers attracted principally by economic incentives would become less representative of the population at large, with various adverse consequences. It would be disproportionately drawn from the poor, which by definition also meant heavily weighted with disadvantaged racial and ethnic minorities.

Like all essentially political questions, this one can be thorny. Is it fair that the economically privileged escape exposure to combat? But, why shouldn't the people who need it have the opportunity to get the edge on life afforded by Army experience and training? Does a conscript Army which cannot be employed easily without a fair measure of public support (as we learned in Vietnam) provide a desirable brake on military adventurism? Or, does that limitation make it too difficult for our political leaders to respond to legitimate national security emergencies?

In fact, the racial composition of the Army has changed under the all-volunteer force. The Gates Commission predicted that black enlistees would be 19 percent of the total by 1979; the actual percentage was 36.7 percent. The notion that an underprivileged segment of the population was being put in harm's way out of economic necessity gained currency among some. Others worried about a "tipping point," a percentage of minority face content which would discourage enlistment by nonminorities and also lead to loss of political support. These issues were somewhat defused during the 1980s, as the annual percentage of black enlistees fell into the low 20 percent range. That the Army is seen as an equal opportunity employer and an avenue of upward mobility has been demonstrated both by enlistment statistics and by the fact that black soldiers have reenlisted at a higher rate than others.

A relatively unforeseen development which has been influenced, but not entirely caused, by a switch to the all-volunteer concept has also been growth in the participation of women in military service. In part, the increase in female soldiers, from 2.1 percent of the force in 1972 to

11 percent in 1992, reflected a national trend that has seen a major growth in work force participation by women. However, although a 2 percent legal limitation on enlisted female strength was lifted in 1966, the growth trend did not begin until 1973. The greatest growth occurred in the first six years of all-volunteer recruiting, with an increase to 8.9 percent of the force by 1980.

Success and Failure

In very broad strokes, all-volunteer Army recruiting achieved its numerical goals in fiscal years (FY) 1973-1975 and provided some grounds for optimism. Only 50 percent of FY 72's 182,000 enlistees were high school graduates, however, a post-World War II low. This raised concerns that the MVA would be of low average quality, and it also kept future year recruiting objectives higher than desirable because the rate of attrition for non-graduates is double the rate for those with high school diplomas. Congress responded in legislation authorizing funds for recruiting by mandating improvement, setting as a minimum a 55 percent high school graduate component.

Other factors contributed to early successes. Recruiting was adequately resourced, entry-level enlisted pay remained competitive throughout the period, and the Vietnam-era G.I. Bill continued in effect. Moreover, the country was in recession, with high youth unemployment, conditions which began to abate only in 1975.

Beginning in FY 1976, events conspired to undermine the early gains. The youth labor market tightened up, as an improving economy gave enlistment prospects more employment alternatives. Cuts were made in recruiting resources; the advertising budget, for instance, was reduced by a third. The Vietnam-era G.I. Bill was allowed to lapse, to be replaced by the far less attractive Veterans Education Assistance Program (VEAP). Entry-level pay was not keeping up with the double digit inflation of the late 1970s, and pay compression was accelerating the loss of experienced careerists, particularly in the technical specialties. The Army Recruiting Command experienced a shortfall of 16,000 in FY 1979, and Army Chief of Staff General Edward "Shy" Myer told Congress that the nation had a "hollow Army."

In 1980 it also was found that the Armed Services Vocational Aptitude Battery (ASVAB), used since 1976 to classify and select applicants, had been misnormed at the lower end, making a large number of enlistees appear more capable than they really were. The sky did indeed seem to be falling on Army recruiters, and talk about the need for a return to the draft grew louder.

Instead, the Army solved the problem with improved incentives, increased resources, and better management

of recruiting. The ability to offer a limited number of two-year enlistments as a "market expander," withdrawn in 1976, was restored in 1979. Funds for advertising and recruiter support, which had been cut by about a third in FY 1976, were restored in FY 1979 to levels close to those prevailing earlier. Fiscal years 1981 and 1982 both saw significant increases in military pay. And funding for enlistment bonuses was increased beginning in FY 1981.

As a result of budget increases, Army advertising was seen and heard more frequently and, beginning in January 1981, that advertising was part of the widely admired and highly effective "Be All You Can Be" campaign.

With these changes in process or in place, the situation began to improve. A very high non-prior service enlistment mission was achieved in FY 1980, and the years immediately following saw the beginning of what turned into a trend of annual quantitative missions accomplished and qualitative standards progressively improved. There were grounds for concern, however. The country was in recession, but the expected economic recovery evoked memories of 1976. Additionally, a downward trend in the size of enlistment-eligible age groups made the shrinking manpower pool a continuing worry.

To sustain recruiting success in the face of these countervailing forces, funding was maintained at healthy levels and an important incentive was added. When the Veterans Educational Assistance Program (VEAP) was created in 1976, the legislation authorized the individual services to augment the educational entitlements involved for individuals who were particularly well qualified or who would enlist in hard-to-fill specialties. In 1982 approval was obtained to go nationwide with the most generous incentive package. This made it possible to promote what had been referred to earlier as Ultra-VEAP as "The Army College Fund," and it gave Army recruiters a most effective tool for use with college-bound enlistment prospects. In 1985 the VEAP was replaced by the Montgomery G.I. Bill, but the Army College Fund has continued to be used as a supplementary incentive for those who can qualify.

In 1983 Secretary of Defense Casper Weinberger declared that the all-volunteer force program was no longer experimental and that the term, in capital letters (All-Volunteer Force), would no longer be used to describe the armed forces.

FY 1985 was seen as critical year because of the declining manpower pool and increased competition from civilian employers due to economic recovery. Considerable thought and effort went into the development of

analytical early warning systems to detect difficulties of the sort that developed in the mid-1970s. Funds for advertising and recruiter support were increased.

The crisis did not, in fact, develop. In FY 1985 a slightly smaller recruiting mission was achieved handily and with a slight increase in average quality over the previous year.

It appeared that recruiting success or failure had become less sensitive to changes in civilian employment, and this impression grew as recruiting objectives continued to be achieved even during the high employment years of the second half of the decade. Why this was the case is not entirely clear. Perhaps the structure of youth employment had changed. Instead of competing against the lure of relatively high paying factory jobs, military recruiters could offer an alternative to low paying, dead-end jobs in the service industries. In fact, real wages of high school graduates fell through the decade of the 1980s, although the wages of college graduates rose.

It may also be that successful marketing directed at college-bound high school graduates using the Army College Fund meant that civilian employment as the principal alternative to military service had become less relevant.

Challenges and Implications

Recruiting at mission levels characteristic of the 1980s continued through FY 1989, when the Soviet threat began receding and initial actions to draw down the size of the Army began. In FY 1989 111,500 non-prior service soldiers were enlisted; in FY 1990 the number was 84,300; in FY 1991 74,200.

In the early 1990s attention shifted from a rather single-minded focus on meeting or exceeding recruiting objectives to maintaining recruiting production under conditions of great uncertainty and as resources were being adjusted downward to meet the smaller task.

Uncertainty was understandable. Reduction-in-force plans developed by the Department of Defense were the source of continuing dialogue with the congressional committees responsible for authorizing and approving defense appropriations.

How deeply to cut and how rapidly were at issue, but also the means for achieving reductions. For recruiting, a key issue was the outcome of debate on how much to cut from the career force and how much to achieve through accessing fewer new soldiers. The latter is the easier alternative, but if overdone it leads to an unbalanced and inefficient force, with too many people doing jobs for which they are too senior—and too highly paid.

The complexity and political difficulty of decisions

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concerning personnel strength and policy under such circumstances proved a challenge to Army recruiters. Compounding the problem was the onset of war in the Persian Gulf, as planned separations were deferred and recruiting was accelerated.

Conclusion

From the historical vantage of late 1992, much of the early debate about the soundness of the all-volunteer concept now seems beside the point. Volunteer soldiers performed admirably in the Persian Gulf war. The dismantling of the Soviet empire seems to mitigate the need to keep very large forces under arms and to be ready to fall back on general mobilization.

The Army, however, must be maintained as a ready force at whatever strength level is authorized and funded by the Congress. There can be little doubt that the

decision to maintain the strength with volunteers has had profound implications for the Army and has in many ways been a transforming one. It clearly produced a different kind of Army...or at least greatly accelerated tendencies which led to institutional changes.

Fears that the need to be more accommodating to the Army's new recruits would lead to an overall permissiveness detrimental to discipline underrated the professionalism of the noncommissioned officer corps and the tenacity of military tradition. The need for the Army to live up to individual promises recorded in enlistment contracts, however, did enforce a managerial discipline on the way soldiers are inducted, trained, and assigned to units.

As we go into the 1990s the all-volunteer Army faces new challenges. The advertising budget has been greatly reduced once again. That, coupled with a growing public

perception that the downsizing Army doesn't need new recruits, has made the recruiter's job more difficult. The value of the G.I. Bill and Army College Fund had not been raised since 1985 (that problem was addressed, at least, with an increase in those benefits on 1 April 1993). Despite nagging concerns, if we use the lessons we have

learned over the past twenty years, there is no reason to believe that the Army cannot successfully continue to maintain an all-volunteer force, as long as enlistment incentives are maintained and recruiting manpower and funding are maintained at an adequate level.

Book Review

by John T. Greenwood

The Alaska Highway in World War II: The U.S. Army of Occupation in Canada's Northwest

by K.S. Coates and W.R. Morrison

University of Oklahoma Press. 309 pp., \$29.95

Northwest Epic: The Building of the Alaska Highway

by Heath Twichell

St. Martin's Press. 368 pp., \$24.95

It is highly appropriate that these excellent and complementary books should have appeared during 1992, the year that marked the fiftieth anniversary of the completion of the rough pioneer road from Dawson Creek, British Columbia, to Big Delta and Fairbanks, Alaska. Seven U.S. Army engineer regiments—the all-white 18th and 35th Engineer Combat Regiments and 340th and 341st Engineer General Service Regiments and the black 93d, 95th, and 97th Engineer General Service Regiments—teamed with numerous Army support and service units and the U.S. Public Roads Administration (PRA) to push this 1,500-mile road through impenetrable forests and across mountains, muskeg, and glacial rivers between April and October 1942. Although the title of Heath Twichell's book, *Northwest Epic*, accurately depicts the story of the completion the ALCAN (Alaska-Canadian) Military Highway (changed to Alaska Highway in 1943), there was much more to this story than just the Alaska Highway. Taken together, these books recount not only the U.S. Army's numerous defense projects in the Canadian Northwest—Alberta, British Columbia, Yukon Territory, and the Northwest Territories—but also their significant and long-term social, economic, environmental, and cultural impacts on the people and resources of the area.

Heath Twichell's book is the author's personal journey to complete a work originally begun by his late father, a retired U.S. Army Engineer colonel who had served on

the highway during the tough days of 1942-43. In taking on and vastly expanding his father's unfinished memoirs, Heath Twichell has given us a comprehensive account of the numerous U.S. Army defense projects in the Canadian Northwest. The building of the Alaska Highway was but the beginning of a massive American invasion that eventually included the controversial and questionable Canadian Oil (CANOL) project and its oil pipelines and refinery; the U.S. and Canadian airfields of the Northwest Staging Route to Alaska and on to Siberia; the operations of the Alaska-Siberian (ALSIB) air route used for ferrying Lend-lease aircraft to the Soviets; the establishment and operation of radio, telephone, and road services along the highway; and all of the supporting facilities and services that came under the Army Service Forces' Northwest Service Command which had its headquarters in Edmonton, Alberta.

Northwest Epic properly focuses mostly on the building of the Alaska Highway from April to October 1942, its subsequent upgrading by the PRA, and the Army's operations and maintenance along it during the war and on the companion CANOL project, but it also includes coverage of the other projects as well as the wartime and postwar controversies they all sparked. Twichell uses interviews, official documents, newspaper accounts, and unpublished sources, such as his father's memoirs and letters, to tell the story of the officers, enlisted men, and civilian contractors who built and operated these projects under such extremely adverse conditions. Operating in the uncharted wilderness but with the latest in American heavy construction equipment, such as the Caterpillar D-8 bulldozers, these men challenged and overcame the great obstacles of rugged terrain, dense forests, unpredictable weather and climate, inadequate and uncertain supplies, the lack of training and equipment, swarms of hostile insects, and conflicting federal bureaucracies.

For the black engineer units, such conditions exacerbated the already negative aspects of the segregated Army of the day which significantly added the huge burden of discrimination to their already formidable

workload. Despite these physical and emotional obstacles, the black engineers both on the Alaska Highway and CANOL project succeeded in pushing their assigned tasks to completion.

Just as he objectively tells the story of the black soldiers' contributions to these projects, Twichell also relates the twisted tale of CANOL, which was possibly the most controversial of all the Army's World War II construction projects, and of its principal advocate, General Brehon B. Somervell, the commanding general of the Services of Supply (later renamed Army Service Forces, ASF, in 1943). CANOL became a prime subject of Senator Harry S. Truman's Special Committee Investigating the National Defense Program in 1943-44. The Truman Committee's investigation revealed CANOL to be a wasteful and poorly planned project that was driven primarily by Somervell's personal influence and desires. Such objective investigations certainly added to Truman's political credentials at a critical juncture prior to the Democratic Party's convention of 1944 that selected him as President Franklin D. Roosevelt's vice-presidential running mate in that fall's election.

While Twichell also addresses the controversy that the huge American presence in the Canadian Northwest spawned in Canada and its impact on Canadian-American relations both during and after the war, Coates and Morrison in *The Alaska Highway in World War II* focus primarily on the "American Army of Occupation" and its impacts on the region. To their credit, the authors quickly dismiss the old Canadian myth that the U.S. Army's wartime presence and programs were part of some sinister American plot to assume a dominating position in the Canadian Northwest (pages xv-xvi). They use the interesting approach of comparing the Army's presence and impact on the Canadian Northwest with other American military occupation experiences, such as American occupations in Germany and Japan.

Coates and Morrison look principally at the transformations that the U.S. Army and its defense projects caused in Northwest Canada as a region. The impact of the American presence and activities on the native peoples, natural resources, crime and law enforcement, health, sexual habits, economic and urban development, the transportation system, housing, settlement patterns, fish and wildlife, and culture and values are all examined. Generally the authors lay out the prevailing Canadian myth about negative impact of the "Army of Occupation" and then carefully and factually go about clarifying what the actual impacts were. In most cases, their conclusions are that the Canadian beliefs have little or no substantiation.

Coates and Morrison conclude that "Most important of all, the Northwest defense projects destroyed forever the isolation of the Canadian Northwest, providing easy access by air, road, and telephone to the rest of the continent." Moreover, the American occupation awakened the Canadian government to the importance and needs of the Canadian Northwest and ended forever its previous neglect of the region. The Americans, especially the U.S. Army, were the primary "agents of change" for the Canadian Northwest with their wartime projects that prompted growth in cities and towns of Alberta, British Columbia, the Yukon, and Northwest Territories and significant regional economic development. Major settlements were relocated from the rivers and lakes of the prevailing fur trade to the roads and airfields of today's modern transportation and communications systems.

In many respects, the American "occupiers" laid the foundations and infrastructure for the postwar development of the Canadian Northwest upon which these areas continue to build. However, the imposition—forced, adopted, or unintended—of distinctly American culture and values had significant negative as well as positive impacts. This was especially true for the native peoples as their way of life, education, and health were forever changed with the construction of the highway and all that it brought.

The authors conclude their systematic review of the impact of the American occupation by calling for more wide-ranging study of the effect of World War II on global postwar changes. "World War II," they write, "had truly transformed the world, taking a giant step towards the creation of a more global society. The Canadian Northwest was a significant and representative element in a broad and sweeping process that, just as surely as military combat and victory, determined the shape of the postwar world." Their point is well made, and it should nudge both official and academic military historians in the United States and elsewhere into action.

For those wishing to consult additional works on the Alaska Highway, CANOL, and Canadian-American relations during World War II, I recommend the fine collection of essays edited by Ken Coates, *The Alaska Highway: Papers of the 40th Anniversary Symposium* (Vancouver: University of British Columbia Press, 1985); Stanley W. Dziuban, *Military Relations Between the United States and Canada, 1939-1945* (Washington: 1959), and Karl C. Dod, *The Corps of Engineers: The War Against Japan* (Washington: 1966), both volumes in the Center of Military History's "green book" series, the United States Army in World War II; and C.P. Stacey, the dean of Canadian official military historians, *Arms, Men*

and Governments: The War Policies of Canada 1939-1945 (Ottawa: 1970).

The works of Twichell and Coates and Morrison provide objective, balanced, well-written, and well-documented accounts of an aspect of the U.S. Army's history in World War II that is today still little known. The Army's large presence in the Canadian Northwest during the war changed forever the entire area and the Canadian government's policies toward it and also left among many Canadians lingering negative perceptions of the "occupiers" and the impact of their activities. Heath Twichell provides a largely American view of this history, while Coates and Morrison give us the important Canadian perspective. Both perspectives are valid, factual, and necessary to a fuller understanding of this complex history which our two nations share. Both books must be read to appreciate fully the fine details and complexity of the story as well as to grasp its true scope, size, and significance. The books are roughly the equivalent of three individual painters working on a single canvas. Heath Twichell has roughed out the canvas' size, composition, organization, basic colors, and major features; Coates and Morrison have skillfully added the subtle shading, colors, contrasts, intensity, and emotion that give it deeper meaning.

Dr. John T. Greenwood, Director, Field and International Programs, Center of Military History, is the author of "Building the Road to Alaska" in the recently published *Builders and Fighters: U.S. Army Engineers in World War II*.

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