

For the want of a nail: the Western Allies' quest to synchronize maneuver and logistics during operations Torch and Overlord

by

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Abstract

Understanding why the Western Allies failed to penetrate the western border of Germany in the fall of 1944 is a longer and more involved story than most histories of the topic imply. Allied performance in the European Theater of Operations during World War II is directly linked to their performance in the Mediterranean Theater of Operations (MTO) and before that, in the North African theater. This study focuses on how the Western Allies conducted campaigns – how they ran combined headquarters in order to plan and supervise joint, theater-level operations, and how those activities changed over time as the key leaders involved gained combat experience.

After looking at the efforts of the Allied over this longer window of time, a new conclusion about why the pursuit phase of Overlord failed to penetrate the Westwall becomes clear. LTG J. C. H. Lee's Communication's Zone (COMZ) was unprepared to fulfill the logistical requirements of the Allied fall campaign in France in 1944, contributing directly to disappointment over the outcome of the campaign. For those who expected two years of combat experience to result in more effective performance in subsequent action, the failure was surely surprising. This study examines why COMZ could not manage the theater's logistics and distribution system, and how Supreme Headquarters, Allied Expeditionary Force (SHAEF) failed to correct this shortcoming as it sought to synchronize joint operations with logistical requirements and the limitations they imposed.

By contrasting the operational methods used by the United States (U.S.) and United Kingdom (U.K). and by looking at how Torch and Overlord unfolded, this study reaches three conclusions. First, COMZ was woefully unprepared to execute its combat mission in August 1944, and its failures lengthened the war considerably. Second, this failure was directly linked to

the U.S. Army's inability to integrate lessons learned at European Theater of Operations, U.S. Army (ETOUSA). Third, the work demonstrates how critical the integration of maneuver and sustainment is at the operational level of war and how U.S. doctrine and practice predating the war made this difficult to recognize. Finally, successful command at the theater and operational level relies upon consensus and cooperation, unlike the more directive nature of tactical control.

COMZ and SHAEF were not prepared to fulfil their roles in August and September because the U.S. experience in World War One and the doctrine that emerged from that experience resulted in the adoption of a model for theater command that was eventually rejected in 1944. Although useful lessons were gained during Torch and implemented at Allied Force Headquarters (AFHQ), ETOUSA and Lee's Service of Supply (SOS) did not integrate them. Those lessons were obscured when key personalities rotated or the org chart changed -- it took time for AFHQ, North African Theater of Operations, U.S. Army (NATOUSA), and the functional components to gel. ETOUSA and SOS faced different challenges, were busy with Bolero, and suffered through personnel turnover and restrictions of their own. A final round of reorganization swept through the U.K. over the winter of 1943 and 1944 when much of the command team relocated from the MTO to London. These organizational changes left in question who exactly was in charge of the various aspects of the sustainment mission during Overlord. Lee proved less effective than his peers when it came to producing results that were valued by the operational commands, and SHAEF and the army groups gradually poached ownership of planning and integrating logistical support from SOS/COMZ as a result. Lee held on to running the communications zone in France, but then he did not properly prepare for the mission. By the time SHAEF realized COMZ did not know how to do its job, it was too late to save the fall campaign.

Just how bad things had gotten by October and November was masked by poor recordkeeping during the pursuit, confusion over what was really happening within the subordinate commands, and a narrative advanced by Eisenhower in January 1945 designed to paint a more flattering picture of recent events. Eisenhower manipulated facts in a report submitted to the Combined Chiefs of Staff in order to justify his decisions in France, dismiss any reported “mistakes” made during the fall, and ensure he retained personal control over the three army groups rather than reappointing a subordinate overall ground commander. In the process, Eisenhower initiated the cover-up that would make it so difficult to establish why the pursuit broke down.

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Dedication

This book is dedicated the soldiers of the United States Army, and the American citizens who fund and support them, most notable among them from a personal perspective, my wife Tracey and daughter Lindsey.

Preface

When Supreme Headquarters Allied Expeditionary Force (SHAEF), under the command of General Dwight D. Eisenhower, took control of the ground campaign in France in early September 1944, the organization was fatally compromised by the unpreparedness of LTG John Cliff H. Lee's European Theater of Operations U.S. Army (ETOUSA) and Communications Zone Command (COMZ). COMZ could not provide effective logistical support during the pursuit across France, and by the time SHAEF recognized the fact that Lee could not fulfil his promises and stepped in to fix it, it was too late to restore mobility in the face of a revived German Army. Eisenhower dissipated his strength during the four weeks between 25 August and 25 September, trying to sustain three separate thrusts, each designed to achieve an operational objective, and in the process accomplishing none of them. Disagreement among his senior advisors about the logistical viability of his preferred scheme of maneuver led Eisenhower to endorse the risk associated with this move. The Allied pursuit faltered when COMZ could not deliver enough fuel to keep all of the divisions in the vanguard moving regularly and COMZ then contributed to the failure to quickly restore mobility in the face of local knots of resistance by not supplying enough fuel and ammunition to blast the enemy out of its hasty defensive positions. In hindsight the Allies were remarkably close to achieving decisive results in September, and they only failed to pull off Eisenhower's gamble by the slimmest of margins. Had any of the main Allied attacks advanced as little as fifty additional miles before the arrival of bad weather and the recovery of the German Army stabilized the front, the impact on the war would have been significant. Opening Antwerp in mid-September offered the "silver bullet" solution to Allied transportation difficulties. The dual envelopment of the Ruhr or penetration into the Saar would have caused major production problems that would have in turn retarded the

German bid to regenerate its ability to launch counter offensives by mid-December. It is unrealistic to claim that the Western Allies could have ended the war before Christmas 1944, but German resistance would have suffered a major blow had Eisenhower accomplished any one of his three major operational objectives in September. But because SHAEF did not accurately match its goals to its logistical means, and because COMZ failed to live up to the optimistic projections upon which that decision-making rested, the Allied pursuit fell far short of its true potential to harm German resistance.

The fact that SHAEF and COMZ could not execute such fundamental tasks at such a late stage of the war and two and three months after the initial landings in Normandy seems counter-intuitive. After gaining almost two years of practical experience fighting side by side in North Africa and in the Mediterranean, it would be logical to assume, the Western Allies and U.S. Army could have done better managing the campaign during the critical weeks of the pursuit across France. This study seeks to explain why COMZ could not manage the theater logistics system during its first three months in charge and why SHAEF failed to detect and address this shortfall before it resulted in a crisis. It is a story about how difficult it is for large organizations to change their behavior while engaged in a massive undertaking and the importance of personalities and relationships in even the largest enterprises.

Background and Definitions

The critical organizational deficiencies that SHAEF and COMZ still had in fall 1944 were an extension of how the management of the war had been handled for years. The way the Western Allies divided responsibility for the higher-level management of the war and how the U.S. Army was affected by it were crucial matters. At its heart was the employment of a joint-combined headquarters, a novel organization to both the U.S. and U.K. militaries in 1942. The

British had been employing joint regional commands since the beginning of the war, but figuring out how to integrate Americans into this structure was another thing entirely. The existence of a joint combined headquarters called into question what U.S. doctrine dictated was the role of Army theater headquarters. The relationship among the various national and service commands continued to evolve during the war based on the experience gained from North Africa, Italy, and other expeditionary campaigns conducted between 1942 and 1944. The U.S. Army simultaneously wrestled with defining the relationship between general or coordinating staff sections and their technical or special staff associates, a battle that played out differently in each theater and echelon of command from the War Office to army level. Uncertainty about how to structure headquarters and how to supervise staff sections was compounded by the need to master the operational level of war and the art of campaigning, which were heavily dependent upon the synchronization of large-scale maneuver and theater logistics. Finally, both the U.K. and U.S. militaries were confronted by operational shortcomings in Africa and Italy, triggering a search for ways to increase competency and effectiveness in their formations. This in turn called into question what it took to learn, and the best way to improve performance on the battle field.

Joint-Combined Headquarters and U.S. Army Theater Commands

SHAEF was a joint and combined operational headquarters. This means that it was charged with synchronizing the activities of air, land, and sea components (joint) with a staff comprised of a mix of U.S. and U.K. officers (combined). Taken in isolation, neither concept was new, especially within the British military tradition. But the elevation of the importance of air power since World War One and the desire to integrate national forces from the tactical to strategic level to a degree that had never been tried before made joint-combined operational headquarters a largely uncharted territory in 1942. British and U.S. doctrine acknowledged the

important of joint integration but offered no details on how to do so. Even more noticeable by its absence was any guidance on how to do so in concert with a close ally and on what impact a joint-combined headquarters would have on older systems of exercising command and control at the theater level. When the Allies decided in July 1942 to launch Operation Torch, one of the first and most difficult associated tasks was to build what would become the Allied Forces Headquarters (AFHQ) to plan and run the campaign. A British model for a theater command already existed and was applied to Torch; unlike the U.S., the U.K. had already established an independent air force, resulting in three component commands under the AFHQ umbrella. Who exactly would exercise the function changed over time, but AFHQ was served by subordinate air, land, and sea components responsible for planning and coordinating all activities within their respective domains.

U.S. doctrine called for a similar, and perhaps redundant, command structure to act as the overarching Army headquarters for each active theater. Its major components included the ground force, the air force, and the logistics force (called the service of supply, or SOS). As written in doctrine, this was both an operational and administrative organization, but the creation of joint-combined headquarters to direct operations quickly reduced the scope of ETOUSA and North Africa Theater of Operations, U.S. Army (NATOUSA) to administrative and logistical matters. Exactly what this U.S. organization was responsible for within a context where a joint-combined, overall ground, and rear area commander operated was a fundamental question that dogged the U.S. Army from February 1943 through November 1944.

NATOUSA and ETOUSA existed primarily to synchronize logistical support to U.S. units in the theater, but the exact boundaries of this mission changed whenever any of the key players in the equation rotated out. ETOUSA cycled through five commanders (with

Eisenhower filling this role on two separate occasions) between the summer of 1942 and January 1944. The ground component commander for AFHQ was initially General Kenneth Anderson, 1st Army, and then General Harold Alexander, 18th Army Group, both British officers. MG Everett Hughes was the deputy commander of NATOUSA and the commander of the Communications Zone (COMZ), and BG Tom Larkin was his primary subordinate, who served as the SOS commander of NATOUSA. Finally, MG (later LTG) Humfrey Gale was the Chief Administrative Officer (CAO) at AFHQ, a British logistician with almost thirty years of experience in his field. All of these men had strong personalities and firm beliefs about how the logistical structure should be organized and run. The accumulation of varied operational experience in the Mediterranean and constantly rotating personnel combined to prevent the emergence of consensus on the best way to accomplish this role. The complexity of this issue goes a long way towards explaining why Lee's command was so unprepared to execute its duty in August 1944.

What made matters even worse was a final wrinkle that applied uniquely to ETOUSA. When Eisenhower returned to London in January 1944, he decided ETOUSA was redundant, reassigning the few officers who still worked there to either SHAEF or Lee's SOS. But rather than eliminating that command echelon altogether, Eisenhower retained the organization while pushing its administrative duties down to Lee's SOS. Because people were uncomfortable with Lee issuing orders to 8th Air Force and Bradley's 1st Army and 1st Army Group, Eisenhower retained his title as ETOUSA commander, appointing Lee the deputy and LTG W. Bedell Smith the chief of staff. The practical result was that the general and special staff at SOS now also assumed responsibilities as the theater (ETOUSA) coordinating and advisory staff. The last piece of the puzzle needed to follow this story was the fact that Lee's SOS changed its name to

COMZ once it assumed control of the theater rear area in France. COMZ was equal to and analogous to Bradley's 12th Army Group in that both organizations had complete authority within their assigned battlespace, and could only be directed by ETOUSA or SHAEF. The evolving relationship among SHAEF, 21st and 12th Army Groups, and COMZ in August to October sets the stage for the second half of this study.

General and Special Staff Sections

Large staffs in the U.S. and U.K. militaries were typically divided into two general categories -- the coordinating or general staff, and the special or advisory staff. Of particular importance to this work is the technical, service-oriented portion of that special staff, such as the quartermaster, ordnance, transportation, signal, and engineer sections. These special advisors were added to the general staff during the nineteenth century when Western militaries realized they needed trained professionals to look after the bureaucratic requirements of the force. They were generally broken down in the combat arms branches and the support-oriented technical services. These were the organizations that ensured their community was armed with the right equipment, had the right array of component units and headquarters, and were trained and educated to fully exploit the potential of their unique function on the battlefield. Coordinating or general staffs existed to help synchronize these branches and services on behalf of the commander during active operations, at least in theory putting one deputy chief of staff each in charge of personnel, intelligence, operations, logistics, and planning. Expansion of the size and role of the general staff was a logistical step designed to reduce the number of agencies the commander had to manage personally, but it also carried the risk of creating a messy division of roles and responsibilities, with the potential for both gaps and overlapping coverage. It also demanded that the deputy chief of staff have the personality and experience needed to lead and

manage his peers from the branches and services assigned to the special staff. The British Army had largely worked through the bureaucratic and organizational challenges presented by this dual system of control by early 1943, while the U.S. Army was just getting started. The fact that Lee had wrestled supervisory control over the ETOUSA special staff without ensuring that his general staff was ready to take on that responsibility was a major source of the problems at COMZ during the fall campaign.

Defining the Operational Level of War

Defining the operational level of war can be tricky, and explaining how a staff goes about planning and conducting a campaign is even harder. What is even more problematic is the fact that U.S. and U.K. doctrine, education, and practice during World War Two did not acknowledge the existence of such a concept at all. The concept of an operational level of war emerged from the increased size and scope of warfare that had developed by the end of the Napoleonic Wars. The potential of armies that applied an operational approach to campaigns, even without explicitly calling it “operational,” was on full display during the Wars of German Unification and during the last two years of the American Civil War. Called into question by the lack of movement on the Western Front during World War One, the concept of maneuver warfare remained valid on the Eastern Front and on secondary fronts throughout World War One. It returned with a vengeance in 1939.

The idea of stringing together a series of battles and small engagements, linked to movement that damaged the enemy’s ability to turn natural resources into deployable military power, reemerged dramatically during the second half of the Napoleonic Wars. Armies had grown to such a size, operating on several fronts or even theaters, that it was impossible to knock

an opponent out of the contest with one battle followed up by an aggressive pursuit. By 1914 the industrial powers of Europe had nearly infinite capacity to regenerate military power in the field, no matter how horrific the monthly casualty rate and extravagant the expenditure of ammunition. In order for a set of engagements to produce any meaningful result, the high command needed to combine a series of blows in a logical sequence and for just the right duration. In theaters where the concentration of manpower did not preclude breakthroughs and offered the hope of a return to mobility, one attacked in order to break open the front. In the tactical realm one moved to create the opportunity for a favorable attack, but at the operational level one attacked with the hope of regaining mobility.

If successful in restoring mobility to operations, deciding where to move next was critically important. Those targets, or objectives, generally fell into one of two categories – those that reduced the enemy’s ability to resist over a longer time frame, and those that extend the operational reach of the friendly force while preserving its combat power from wastage.¹ Conducting an operational campaign was risky business, one that combined the science of movement and consumption rates with the art of predicting the intentions and capabilities of the enemy relative to one’s own. The commander risked harm to his own force while seeking to disproportionately hurt the enemy. Movement and combat contributed to the wastage of both sides; long advances or retreats might actually do more harm to the army than the fighting itself did, a concept captured in the modern U.S. Army’s definition of culmination or the culminating

¹ Objectives meant to reduce enemy resistance might be industrial centers, major recruiting regions, areas dedicated to extracting natural resources, or places where military and political activities were coordinated. Objectives that extended the reach of friendly forces included concentrations of road and rail lines, ports, clusters of bridges over major rivers, agricultural areas rich in forage, and shelter in harsh weather. Threatening either of these types of objectives might also induce the enemy to fight at a disadvantage to try to retain them.

point.² Just having the ability to protect large, mobile forces deep into the enemy rear and keep them resupplied there became a major advantage to the nation that possessed such a capability. The British experience in the North African desert from 1940 to 1942 had given them a head start over the U.S. Army in recognizing the value of such a skill set and the practical matter of keeping the men and vehicles engaged in such activity functional. By December 1942 Montgomery and his 8th Army were well on their way in learning how to blend combat, movement, and sustainment over great distances in an austere environment in order to punish his opponent, and the criticality of one commander and one headquarters to synchronize this activity.

A critical component of warfare at the operational level is providing logistical support to friendly forces. In the context of this study, operational logistics is the management of two related activities: a large-scale requisition system and the transportation network required to move supplies up to the combat zone. Theater logisticians had to figure out what the combat and support units needed and then determine where all of those supplies were located, either already in theater, already on their way, or somewhere back in the industrial pipeline. The last step was to figure out the best way to move a lot of different items up to the user as quickly and efficiently as possible, and then ensure those orders were actually executed. A difficult task under perfect conditions, this challenge was complicated by trying to work from information that was out of date and at least partially incorrect, the need to rely on insufficient communications equipment,

² The 2018 edition of U.S. Army Doctrine Publications (ADP) 1-02 *Terms and Military Symbols* defines the culminating point as a point “at which a force no longer has the capability to continue its form of operations, offense or defense. *JP 3.0 Operations* (2017) expands the definition to include: “In the offense, the point at which continuing the attack is no longer possible and the force must consider reverting to a defensive posture or attempting an operational pause.” Culmination happens when the attacking force can no longer dislodge the enemy, and it is the result of two linked developments: the enemy becomes too strong to dislodge or the friendly force outruns its source of supply and reinforcement.

all while trying to stay ahead of priorities that changed quickly and often. On top of this, the enemy could upend everything at a moment's notice by taking a unanticipated action. Mastery of the operational art of war brought with it the realization that supply and transportation requirements largely drove the selection and sequencing of maneuver objectives. The inherent flexibility of motorized units could trump operational restraints, but only for a very short time; eventually the material bill associated with massed, mechanized warfare would have to be paid. And the longer one ignored the physical limitations of the distribution network in the pursuit of tactical gains, the greater the eventual cost of reconciliation.

It is easier to outline an intellectual framework for designing campaign plans in the 2000s than it was for an Allied staff officer from 1942 to 1945. The doctrinal language to help discuss the issue did not even exist, and the capstone manuals written to guide officers serving on the most senior-level staffs had almost nothing of value to help novices understand the basics or how to approach an operational problem.³ Of the five key manuals written to address these topics, only the British *Manual of Movement (War)* was of much practical use to the novice. Experts did not need doctrine; he already understood the topic. But the authors of U.S. capstone doctrine, and the British *FSR Vol III Operations -- Higher Formations*, seemed not to realize who their intended audience was and how to reach them effectively. In the case of U.S. doctrine, it is probably more accurate to say that there were ambiguity, contradiction, and a lack of practical examples and helpful techniques because the authors really had not mastered the subject, nor had the U.S. Army reached a consensus on how they wanted to run a theater and conduct operational campaigns. By the summer of 1944 the British Army in Normandy thought

³ Modern U.S. Army doctrine contains nine elements of operational design: end state and condition, center of gravity, decisive points, lines of operation and effort, operational reach, basing, tempo, phasing and transitions, culmination, and risk. The ideas behind operational reach and culmination both speak directly to the need to integrate the maneuver and logistics elements of the staff.

about ground combat from an operational perspective, but without the benefit of any doctrinal “code” with which to introduce the concepts to their American counterparts. This was an intellectual blind spot for the U.S. Army that contributed directly to the failure to set clear priorities and pairing of logistical support that emerged after the crossing of the Seine.

A Bit of Wisdom from Michael Howard

Different countries approached extracting lessons in different ways between 1942 and late 1944, and how well they succeeded in using these lessons in the Allied campaign in France merits study. The conclusion is that every senior Allied headquarters learned how to manage campaigns better as a result of the lessons process; but this learning was uneven across the various Allied organizations. In the case of Lee’s SOS/COMZ the pace of learning was too slow to avoid mistakes foreseeable to others and eliminate gaps in capabilities that were noted and fixed elsewhere in the Allied camp. This leads to an examination of the factors that inhibited SOS learning before August 1944, contrasted with alternative experiences at SHAEF, 12th and 21st Army Group, and similar headquarters serving in North Africa. Figuring out why COMZ learned slower than others and why SHAEF still had a few critical blind spots as late as October 1944 is a difficult task for several reasons. It is hard to judge how well an organization learned and improved relative to its peers because the very topic forces one to guess about how its members might have done better. The risk of such speculation is the perhaps mistaken conclusion that corrective change was possible with the same cast of characters facing the same competing demands on their attention and that the successful adoption of one fix would not have exposed another point of failure somewhere further down the line. At the heart of this issue is a fundamental question about how large bureaucratic organizations learn in the middle of

executing complex tasks and whether the idea of preemptive adaptation over longer time horizons, rather than just reacting in the moment, is even a realistic expectation.

Sir Michael Howard wrestled for much of his career with trying to temper the unrealistic expectations that generalized lessons could be extracted from the study of military history. In a lecture given in 1961 Howard warned that extracting an accurate understanding of any historical event was difficult, but he also conceded that it was one of the best ways for military officers serving during peacetime to prepare for war.⁴ Howard also approved of the fact that the official histories of the Second World War being produced by the War Office were “histories ‘proper’, and not contributions to a national myth.”⁵ But he also warned that military men not trained as historians were likely to make a mistake of applying their own education, experience, and knowledge, perspectives not available to the subjects under study, as a part of the evaluation of their performance.⁶ It requires a delicate balance to use current thought and practice to gain insights without slipping over into having unrealistic expectations of historical figures. Howard acknowledged that professionals had no choice but to use history to better understand their trade, but he warned them to study topics in width, depth, and context to avoid the dangers of oversimplification. It would also help them resist the urge to extract observations related to a very specific event as general rules that could be applied everywhere. One of Howard’s most striking statements during this lecture was the admission that military men needed to study history because “...the complex problem of running an army at all is liable to occupy his mind

⁴ Sir Michael Howard, “The Use and Abuse of Military History,” Lecture to RUSI, London, 18 October 1961, reprinted in *The RUSI Journal*, Vol. 138, No. 1, 26-30, 27, 28-29.

⁵ *Ibid.*, 27.

⁶ *Ibid.*, 27. Howard cited Hans Delbrück for this insight. The exact phrasing was that the professional “transfers phenomena from contemporary practice to the past, without taking adequate account of the difference in circumstances.” Howard used the example of applying the theories of Jomini and Mahan to evaluate the performance of commanders that lived before these works were written.

and skill so completely that it is very easy to forget what it is being run for.”⁷ It is a succinct summary of exactly what happened to Lee’s SOS during their two years in the U.K. Howard noted why military men might not deeply understand the fundamentals of their profession at the start of a war but must learn them during the first months of active combat. “These unfortunate men may,” he said, “...take too long to adjust themselves to reality, through a lack of hard preliminary thinking about what war would really be like....”⁸

Twenty years later, Howard’s thinking had evidently changed; he was not so sure that any lessons could be extracted from history.⁹ Admittedly he was talking about the study of history, not the analysis of recent combat experience by its practitioners, but the two processes were so similar as to give one pause. The fact that Howard was uncomfortable offering any lessons on the Allied effort in Italy in 1943 to 1945, a campaign in which he had personally participated as a young officer, is illuminating. At the heart of the issue, in Howard’s mind, was the difference between “lessons” and the value to be gained from good historical inquiry, with lessons implying some applicability to a wide range of conditions, similar to principles or rules of thumb. It is exactly these nuances that are crucial to understanding what happened to U.S. forces in France in 1944. Did Allied senior leaders have access to an operational and organizational framework that might have helped them manage the breakout phase of Overlord? Was it possible to extract “lessons” from the experience in North Africa and the Mediterranean and integrate them among the headquarters personnel preparing for the invasion of France? Howard did not directly address whether military organizations could learn while in combat, but his lecture in 1982 made it clear that he believed it would be a very difficult process with a

⁷ Ibid, 28.

⁸ Ibid, 29.

⁹ Sir Michael Howard, “The Lessons of History,” Lecture at Oxford, 6 March 1981, reprinted in *The History Teacher*, Vol. 15, No. 4 (Aug., 1982), 489-501.

number of predictable and enticing traps to mislead the unwary. Creating “alternative scenarios of the past” was less helpful than trying to master the “structure of beliefs that determined action and perhaps made some actions more likely than others.”¹⁰ If this sounds like an outright rejection of a “lessons learned” process in the midst of war, one must remember that Howard was talking about history, not operations, but the points of similarity are close enough to ensure one proceeds with caution. Extracting the right lessons and using them to retrain large organizations in the early stages of a war is a process that is extraordinarily difficult to get right. It is also deceptively easy to move from the simple conclusion that COMZ, ETOUSA, and SHAEF would have benefited from copying a few techniques from 12th and 21st Army Group, NATOUSA, and AFHQ to making unrealistic claims about what results those changes might have produced and that their adoption was viable in the first place.

The Search for Lessons Learned

Despite the warning offered by Michael Howard of the difficulty, if not futility, of trying to extract lessons from military operations, the U.S. and U.K. militaries put a lot of effort into this activity during World War Two. Few would argue that both the U.S. and British armies learned how to better prepare their forces for combat as a result of practical experience gained in Africa. Observations culled from the fighting in Tunisia led to changes in the way both armies trained and educated officers and soldiers. It is also safe to say that simple, tactical tasks were easier to evaluate and modify than the complex processes overseen by large headquarters, but both countries tried to identify and fix problems at every echelon of the chain of command and functional areas. The British Army in particular had an ingrained habit of collecting and

¹⁰ Ibid, 494.

publishing high-level lessons learned reports intended to share operational experience across theater boundaries. The 8th Army and 18th Army Group provided copies of their campaign assessments to COSSAC, British Home Forces Command, ETOUSA, and 21st Army Group throughout 1943, with the obvious aim of helping these organizations prepare for the conditions they were likely to face in France during Roundup/Overlord. Leaving aside questions about how comprehensive and accurate those lessons were and how well they could be transferred to organizations that had generally not seen combat firsthand, the British put considerable effort into the process.

Since an examination of the efficacy of the lessons-learned process forms an essential part of this study, it might be helpful to examine one contemporary model created to help U.S. military planners think through the steps necessary to introduce a fully-realized function or capability into one of the services. In the 1980s, the U.S. Army came to use a heuristic to help force designers to think through what is required to turn some desired capability into a fielded and resilient component of the military force. Not every component of the model is a prerequisite for eventual success, and not each aspect is equal to the others, but in general the more of these items the force addresses, the higher the probability that the new idea will translate into a concrete advantage on the battlefield. The seven components of this mental model are: doctrine, organization, training, material, leadership, personnel, and facilities. This is a contemporary thinking aid that was not available to the British and U.S. armies during the Second World War, but it can help guide our thinking about the comprehensiveness of Allied efforts to improve their capabilities based on the feedback coming from active combat theaters. If performance out in the field did not match expectations, fixing the problem required that the military organization consider how these seven factors might be contributing to the issue. The

obstacle might be fixable by addressing one aspect of the heuristic, a couple, or all seven. The standard was not a perfect solution in all seven areas, but that it worked well enough to outperform the enemy while preserving the force from unreasonable wear and tear. The real value of this model is the insight it provides about the wide range of possible underlying causes that can contribute to any disappointing performance, and the multiple levers that can be used to fix the poor performance.

Group Decision Making

This study draws heavily on studies, theory, and models designed to predict and explain group decision making taken from the field of political science. It is helpful to understand the basic assertions of two models that frame the comparative analysis of the various Allied headquarters engaged in Torch and Overlord, and to explicitly state that the case studies examined here offer relevant material for refinement of these theories. Those two theories are the organizational politics model and the bureaucratic politics model.

The organizational process model (OPM) traces its roots back to studies from the 1950s and 60s that examined how the nature of bureaucracies impacted the formulation of foreign policy, culminating in the landmark work by Graham Allison *Essence of Decision*, which was first published in 1971.¹¹ This model was later subsumed or folded into the bureaucratic politics

¹¹ Richard M. Cyert and James G. March, *A Behavioral Theory of the Firm* (Englewood Cliffs, Prentice Hall, 1963). James G. March and Herbert A. Simon, *Organizations* (New York, John Wiley, 1958). Richard C. Snyder, H.W. Bruck, and Burton Sapin, *Decision-Making as an Approach to the Study of International Politics*, Foreign Policy Analysis Project Series 3 (Princeton: Princeton University Press, 1954). James N. Rosenau, "Pre-Theories and Theories of Foreign Policy," in *Approaches to Comparative and International Politics*, ed. R. Barry Farrell (Evanston, IL: Northwestern University Press, 1966). Graham Allison, *Essence of Decision: Explaining the Cuban Missile Crisis* (Boston: Little, Brown, 1971).

model, but has important distinctions that should be considered on their own merit.¹² OPM is useful because it explains how the very structure of decision-making bodies limits the options offered to leaders to solve their problems and then subtly alters implementation of directives issued by higher authorities.

Problems are typically ‘factored’ or split into different segments and parceled out to subunits with specific roles and missions that deal with only a particular aspect of the problem. Coordination by top leaders is sporadic, and subunits attempt to deal with their problems in isolation from other subunits, devising solutions and then implementing them in a relatively independent manner.¹³

The result is a series of loosely synchronized activities, many of which have almost no direct bearing on the problem they were designed to solve.

In this model, organizations function according to standing operating procedures (SOPs) or an approach to all activity based on implicit and explicit understanding of its core mission, routine procedures, internal organization of personnel, and formal and informal relationships with organizations around it. These SOPs color how the organization perceives problems and opportunities, the options leaders believe realistically possible that might influence the environment, and even the manner in which directives will be carried out. The important aspect of the theory for our purposes is the subtle brake on innovation this creates. Unchecked, collective assumptions about the “right” way to conduct business closes off options and distorts initiatives to ensure new activity better conforms to past practices and goals. Thus SHAEF, their three subordinate army group headquarters, and ETOUSA/COMZ were in some ways blinded by

¹² David A. Welch, “The Organizational Process and Bureaucratic Politics Paradigms: Retrospect and Prospect,” *International Security* 17, No. 2 (Fall 1992): 112-146. In practice it is difficult to separate exactly why large organizations made the choices they did, a distinction that lies at the heart of the difference between the two theories. Most historical case studies illustrated that important decisions tended to revolve around motives explained by both theories.

¹³ Greg Cashman, *What Causes War? An Introduction to Theories of International Conflict*, 2nd Edition (Lanham, MD: Rowman and Littlefield, 2014), 128

their self-image and established routines. Lee's COMZ in particular was unable to see itself and its environment creatively and react to changing circumstances appropriately, causing friction with the more intuitive, flexible, and combat-hardened organizations around it.

The second framework, the bureaucratic politics model, takes the core components of OPM one step further, positing that the sub-elements within large bureaucratic organizations are not only radically different from one another in how they operate and the end goals they pursue, but actively compete with one another to protect their turf. In some cases, preserving the power and resources at the disposal of the organization is at least as important as reaching a group consensus on how to solve critical policy problems.¹⁴ If OPM attributes interdepartmental friction to the cold logic of structure, BPM adds the irrational elements of human emotion and ego. Sub-components of government resist some initiatives not because they fear they will be ineffective, but merely because they might reduce their own power. They fight the selection of these activities, and then wage a guerrilla campaign to undermine their effective implementation. Loyalty to the sub-group interferes with the ability to step back and examine complex problems dispassionately and holistically. A necessary component of the theory is the idea that organizations develop their own climate and even culture, driven by the strong personalities and shared experiences that shaped them.¹⁵ Bureaucratic battles over authority revolve around the survival of the fittest and most skillful infighters. The desire to accumulate power for its own sake can distract leaders from finding an optimal solution for the larger group. The impact of strong personalities at each senior headquarters in the Allied chain of command and the role they

¹⁴ Sam Huntington, "Strategic Planning and the Political Process," *Foreign Affairs* 38 (1960): 285-99. Roger Hilsman, *To Move a Nation: The Politics of Foreign Policy in the Administration of John F. Kennedy* (New York, Doubleday, 1967). Cashman, 132-133.

¹⁵ Climate refers to the short-term group dynamics accepted as the norm within an organization, while culture is considered a longer-term and more broadly held set of shared norms. These norms can mute the individuality of some members, if not completely overwhelm the strongest characters.

played in the pursuit across France is well documented in the existing historical record, but this study amplifies how key positions were developed, why some won and others lost, and restores the voice of the logistics community within the debate.

Relevant Historical Material

There is probably no topic that has received more attention from British and American military historians than Allied performance in North Africa and France. Key works can be grouped into two major categories: books that put operational logistics and logisticians at the center of the story, and those in which the U.S. and U.K. campaigns are seen through a focus on Allied interoperability and on the function of senior-level headquarters.

The role of operational and strategic logistics has featured prominently in memoirs, official histories, biographies, and campaign studies beginning immediately after the end of the war. *Global Logistics and Strategy* by Robert Coakley and Richard Leighton and *Logistical Support of the Armies* by Roland G. Ruppenthal remain to this day the most thorough and detailed studies of the U.S. approach to logistics at the operational and strategic levels. It is surprising how many subsequently published works ignore the data and carefully recorded sequence of events captured by Ruppenthal. A French historian, Nicolas Aubin, has updated the maps, tables, and pictures scattered throughout Ruppenthal and several of the volumes of the Technical Services series along with his own assessment of the campaign in *Liberty Roads: The American Logistics in France and Germany, 1944-45*.¹⁶ It is a beautifully put together book that consolidates and logically sequences a large amount of information, but it suffers from poor

¹⁶ Nicolas Aubin, *Liberty Roads: The American Logistics in France and Germany, 1944-45* (Paris: Histoire and Collections, 2014).

translation from French to English. Aubin generally repeats Ruppenthal's conclusions about what went wrong with logistics and why, but he also emphasizes the gaps in U.S. doctrine about how to organize and run administrative support in a theater and integrate those activities into a joint campaign plan. Aubin also coins the term "operational logistics" to help describe the shortfall in capability he identified at COMZ and SHAEF. Aubin uses the term operational logistics to describe the part of the distribution chain that linked tactical units with ports, a capability based primarily on cargo planes and heavy trucks moving along improved roads. The ability to coordinate operational logistics was critical during the pursuit phase because rail service tended to be knocked out as a result of bombing, combat, and German sabotage. Because Aubin relied almost exclusively on "Green Book" sources covering the ETO, he does not explore the overlap in the difficulties experienced in both North Africa and France.¹⁷ Nor does Aubin address the differences in the techniques used to control the staff at 21st Army Group, COMZ, and SHAEF and in the outcomes those methods produced. Regardless, it is an excellent source that summarizes almost a dozen other volumes while outlining the most likely contributing factors to the command and control and logistical problems that bedeviled the Allies in 1944 in the ETO.

A better known, if less comprehensive, reinterpretation of SHAEF's performance managing sustainment is included in one of the chapters of Martin van Creveld's *Supplying War: Logistics from Wallenstein to Patton*.¹⁸ Van Creveld relied on secondary sources rather than doing his own archival research, and he concluded that the U.S. Army was spoiled, demanded too many supplies, and could not advance under the ridiculous weight of those supplies once the

¹⁷ "Green Books" refers to the *U.S. Army in World War II* series published by the U.S. Army Center of Military History.

¹⁸ Martin Van Creveld, *Supplying War: Logistics from Wallenstein to Patton* (Cambridge: Cambridge University Press, 1977).

material was delivered. However, if SHAEF had done a better job marshalling its trucks and controlling what was loaded onto them, the Allies might have jumped the Rhine in September 1944.¹⁹ Van Creveld was correct that COMZ could have pressed more truck companies into service and built up additional companies faster than they eventually did. Creveld accepted the accusations leveled by Bradley and Moses that COMZ wasted hauling capacity by moving supplies that had not been asked for, but he did not examine why this was the case and what changes would have been required to fix the problem.

Steve R. Waddell dove into the topic in greater detail in *U.S. Army Logistics: The Normandy Campaign, 1944*.²⁰ Waddell's conclusions are convincing, but they are limited by their exclusion of any comparative evaluation of the experience within 21st Army Group or of what was learned about logistics in North Africa. Like every serious student of the topic, Waddell was immediately struck by the inefficiency and bureaucratic infighting triggered by giving too many headquarters some formal role in the management of theater logistics during Overlord. The book gives equal space to the preparation phase, the stalemate in the *bocage*, and the breakout and pursuit that eventually drove the collapse of the Allied logistical system just short of the *Westwall*. Waddell concludes that COMZ could have put in a better performance, but that it was hampered by its poor relations with other headquarters and a general indifference to logistics among senior officers of the U.S. Army, a charge first leveled by MG Henry Aurand in November 1944. COMZ was also stuck using what they knew to be unrealistic planning figures in their interaction with the ASF and were further constrained by an inflexible logistics plan. This accusation is probably correct, but also something entirely within COMZ's ability to

¹⁹ Martin van Creveld, *Logistics in War: Logistics from Wallenstein to Patton* (Cambridge: Cambridge University Press, 1977), 214-215, 226-230.

²⁰ Steve R. Waddell, *U.S. Army Logistics: The Normandy Campaign, 1944* (New York: Praeger, 1994).

fix internally. COMZ's challenges were amplified by the exceptionally poor supply discipline of the U.S. Army at the tactical level, a charge with which General Gale heartedly agreed. Waddell mistakenly argues that the Allied logisticians did not anticipate the rate of advance after Cobra, placing too much faith in the projected rate of advance used to guide the campaign planners. Planners used these phase lines to guide the framework of how the rear area would be expanded and developed, but they also understood how quickly modern armies could advance during a pursuit. Ross had been trying to ensure that ETOUSA had adequate trucks to sustain a rapid pursuit across France since July 1943. Waddell approaches his topic exclusively from the perspective of sustainment, and his conclusions are framed by the arguments among the different echelons about the best way to manage logistics. This approach ignores the importance of integrating maneuver plans with the limitations and requirements imposed by matters concerning supply, and by extension, the organizational structure and staff procedures needed to do so.

D. K. R. Crosswell's *Beetle: The Life of General Walter Bedell Smith* allocates many pages to the organizational structure of the high command within the ETO and the resulting bureaucratic infighting among themselves, and benefits from tracing these developments from North Africa, to Italy, and finally to France.²¹ An examination of theater logistics is also a cornerstone of Crosswell's approach, and he attributes the breakdown in October to three bad decisions made during the first month after the breakout. According to Crosswell, Eisenhower made three choices that his logisticians could not overcome: abandoning the original plan to use all of 3rd Army to quickly liberate the ports in Brittany on 3 August, deciding to charge across the Seine soon after 19 August (before rail service was restored and dumps were moved up to the

²¹ D. K. R. Crosswell, *Beetle: The Life of General Walter Bedell Smith* (Lexington: University Press of Kentucky, 2010).

front), and prioritizing Market Garden over continuing to focus on aerial resupply and clearing the approaches to Antwerp on 10 September.²² Crosswell argues that this happened because American generals prioritized operations over logistics and that the command and control structure from SHAEF down to the numbered armies was faulty.²³ Once again repeating the accusations of MG Henry S. Aurand (an ordnance officer who was the base section commander for Normandy during the last six months of the war in Europe), Crosswell concludes that Eisenhower made these mistakes largely because he tried to do too much himself. Crosswell thinks Eisenhower had two possible solutions – he could have delegated oversight of both U.S. army groups and COMZ to a senior U.S. commander (Bradley was the likely candidate) or he could have appointed an overall ground commander, which Montgomery agreed with wholeheartedly (as long as it was him).²⁴

Further research suggests two of Crosswell’s three irreparable mistakes were less harmful than he suggests. Rapidly capturing a port or two in Brittany in early August would not have solved the transportation problem that stopped the U.S. Army less than a hundred miles from the *Westwall* at the end of August and continued to slow its recovery as late as early November. Second, letting the enemy escape by halting along the Seine and awaiting the repair of rail lines was unrealistic; planners at SHAEF had been working on how to maintain the momentum of a breakout without stopping at Paris since mid-June. The 21st Army Group would go on to prove it was possible to do so with moderate changes to the ground scheme of maneuver and support plan. But Crosswell is correct when he emphasizes the importance of a cluster of decisions made around 10 September. It was here that Eisenhower missed his opportunity to either open

²² Crosswell, 708.

²³ Crosswell, 736.

²⁴ Crosswell, 760-762. The issue of appointing a ground commander (other than Eisenhower) emerged again, if less violently, after the Battle of the Bulge.

Antwerp and thus solve the shortage of transportation or else fully support one critical thrust in order to achieve his most important operational objective before the pursuit ran out of steam. Crosswell is unique in noting the potential offered by aerial resupply and the opportunity cost of its “diversion” to Market Garden, coming down strongly against the airborne operation.

There are two additional biographies of senior logisticians that attempt to illuminate how the U.S. Army dealt with strategic and operational logistics and its search for the right command structure to manage their execution. Hank H. Cox published *The General Who Wore Six Stars: The Inside Story of John C. H. Lee* in 2018.²⁵ It is hard to believe that this is the only published biography of LTG Lee, a man with vast authority and power who played an important role in the ETO from 1942 to 1945. Cox presents a balanced and more sympathetic appraisal of Lee’s personality and performance, which is no mean feat, but his limited range of sources leaves the reader unconvinced that Lee was just misunderstood and unfairly maligned by his fellow officers and historians.

John K. Ohl covered the other significant administrative commander within the U.S. Army chain of command in *Supplying the Troops: General Somervell and American Logistics in World War II*.²⁶ Somervell’s primary battlefield was in Washington, D.C. and Ohl focuses the book accordingly. Ohl pays attention to the importance of relationships, noting how Somervell’s abrasive and forceful personality interfered with winning his logical argument that grand strategy must take into consideration the limitations imposed by logistics. A second priority on Somervell’s list, the consolidation and rationalization of upper echelons of the chain of command of the U.S. Army, also caused a lot of friction with the War Department and his peers at the

²⁵ Hank H. Cox, *The General Who Wore Six Stars: The Inside Story of John C. H. Lee* (Lincoln: University of Nebraska Press, 2018).

²⁶ John K. Ohl, *Supplying the Troops: General Somervell and American Logistics in World War II* (DeKalb, Illinois: Northern Illinois Press, 1994).

Army Ground Forces and Army Air Forces. Seen as a naked power grab and as empire building by some in Washington, Somervell's efforts to win control over the technical services and branches and establish a supervisory position over the War Department G-1 and G-4 met harsh resistance. Somervell believed in these two reforms, and he played an instrumental role in trying to ensure that they were followed at ETOUSA and NATOUSA as well. To fully understand what was happening in the argument over structure occurring between the first two U.S. Army theater commands and their SOS subordinate headquarters, it is important to realize that they were merely reflections of a similar battle being waged by Somervell in Washington. Somervell's approach was predicated on what the community of senior logisticians thought they had learned from their experience in World War One – that the senior logistician within any organization needed complete control over all planning and synchronization functions. Furthermore, this control needed to lie in the hands of a commander, not a staff officer. To this end, the principal logistician had to be a commander, have direct supervisory authority over technical service sections, and ensure that the senior G-1 and G-4 answered to him. Somervell also pushed the idea that the SOS/COMZ commander in a theater needed to be a peer of the combat zone commander and had to have dual responsibilities to two superiors – Somervell at the ASF, and the overall U.S. Army theater commander for operational priorities.

A second group of books that provide important background to this study are those focused on the inner workings of SHAEF and its subordinate commands and those examining in detail the evolving relationship between the U.S. and U.K. leaders in the MTO and ETO. Forest C. Pogue's volume in the official history, *The Supreme Command*, is especially helpful because he outlines the background of various staff officers assigned to SHAEF and the procedures used

to run the headquarters.²⁷ Pogue was both a professional historian and an eyewitness to the events about which he wrote, and his unvarnished notes from the interviews he conducted in 1946 and 1947 remain available. Any examination of the big decisions made by SHAEF starts with *The Supreme Command*. A second useful if somewhat oblique approach is offered by Rick Atkinson in his Liberation Trilogy, in which *An Army at Dawn* also benefits from being one of the few comprehensive reexaminations of the Torch campaign.²⁸ In this volume, Atkinson manages to keep the theme of the growth and development of the U.S. Army at the center of the story, convincingly demonstrating just how much its senior leaders needed to learn before moving on to tougher fights.

Two recent books are representative of a flood of material dedicated to the evolution of the Anglo-American alliance and to the combined formulation and execution of strategy and operational plans. Edward E. Gordon and David Ramsay's *Divided on D-Day: How Conflicts and Rivalries Jeopardized the Allied Victory at Normandy* relies exclusively on secondary sources but still manages to offer new insights on the major arguments within the Anglo-American alliance.²⁹ When arguments arose, the opposing positions never divided neatly along national lines but were influenced more so by the staff position, command echelon, and historical perspectives of the parent services. The book is highly critical of several decisions made by SHAEF and clearly illustrates the personal and professional animosity that eventually developed between Montgomery and a group of British officers led by Admiral Ramsay. Those two themes are even more effectively supported in *Eisenhower's Armies: the American-British Alliance*

²⁷ Forest C. Pogue, *The Supreme Command* (Washington, D.C.: U.S. Army Center of Military History, 1954).

²⁸ Rick Atkinson, *An Army at Dawn: The War in North Africa, 1942-1943* (New York: Henry Holt & Co., 2002).

²⁹ Edward E. Gordon and David Ramsay, *Divided on D-Day: How Conflicts and Rivalries Jeopardized the Allied Victory at Normandy* (Amherst, New York: Prometheus, 2017).

During World War II by Niall Barr.³⁰ Barr traces the evolution of the working relationship established between U.S. and U.K. military organizations from the earliest days of informal coordination in 1940 through the end of the war in Europe. The book doesn't provide much new insight about the wisdom of the major decisions taken in the Mediterranean and European theaters, but does provide a bit more procedural detail on exactly how they happened. One of the major arguments Barr successfully defends is the way in which Montgomery's behavior in 1943 and 1944 turned almost every senior British senior officer against him by October. Montgomery often provided Eisenhower good advice during the first four months of Overlord, but his personality and past behavior triggered an instinctual resistance from anyone who had worked beside him for any length of time. Barr is invaluable in helping the reader recognize how the techniques used to exercise joint-combined command and control changed over time and to see the sometimes-ugly human failings that got in the way of better decision-making.

What is New

Having examined some of the work that provides an essential background and point of departure, this study reaches three novel conclusions. First, COMZ was woefully unprepared to assume responsibility for theater logistics in August 1944, which led to mistakes that were both avoidable and damaging to the potential outcome of the pursuit. Second, learning occurred at a very different rate among various Allied senior headquarters, a fact that largely explains the disparity in performance between COMZ, its peers, and SHAEF. Third, major campaign decisions taken by AFHQ and SHAEF always involved a compromise between the competing

³⁰ Niall Barr, *Eisenhower's Armies: the American-British Alliance During World War II* (New York: Pegasus Books, 2017).

perspectives of the sustainment and maneuver communities, and to examine any of these decisions without a full appreciation of how the two communities interacted with one another leads to misleading conclusions. Allied freedom of action between 1942 and 1944 was restricted by three interrelated and constantly evolving frameworks: how to plan and run a campaign, how to synchronize theater-level logistics, and how to create a joint-combined theater headquarters that accounted for the preferences driven by both U.S. and U.K. organizational cultures. Any significant reappraisal of Allied decision-making in France during the latter stages of Overlord must account for the influence of each of these intertwined variables. British and American conclusions about theater-level warfare were very different in mid-1942, and they were still far from perfectly aligned by late 1944. The view within the U.S. Army about the best way to run a theater, and the various headquarters needed to do so, never coalesced into a consensus in the ETO. Contributing to this disagreement was the fact that the U.S. Army started the war with a concept for managing theater logistics that was at its heart a rejection of what had been tried in World War One and not a system that had been validated under combat conditions. The U.S. model hoped to insulate the fighting commander from worrying about the administrative support of his forces by assigning responsibility for the rear area, and coordination with industrial base back in the United States, to a separate and equal Service of Supply (SOS) command. The combat and communications zones would be supervised by an Army theater command tasked with synchronizing their interaction. This approach was never going to work with the British, who had rejected a similar setup in 1916 as unworkable.

The Allies culminated short of the *Westwall* in September 1944 because COMZ was unprepared to execute its war-time mission when it assumed responsibility for the communications zone in early August. Asked to support mechanized formations conducting

mobile operations while hampered by a seriously damaged transportation network, COMZ demonstrated that they had not adequately prepared for the mission. Lee's command was unable to manage the massive fleet of trucks at its disposal to deliver the supplies essential to maintaining the momentum of the attack. COMZ was also unable to convince SHAEF to prioritize the use of its C47 fleet for aerial resupply at the expense of preparing for airborne operations. COMZ had sufficient resources at its disposal to sustain the advance, but they were not prepared to manage the technical staff processes required to do so.

The fact that COMZ stumbled out of the gate in France would have been more understandable if the command had not been given repeated access to MG Everett Hughes' COMZ in the North African Theater of Operations U.S. Army (NATOUSA), which stood up in February 1943. Torch proved difficult to plan and lead for AFHQ, and the leaders and organizations involved learned much from the experience. Lee visited NATOUSA repeatedly himself, and he also sent delegations from his command on several trips to extract applicable lessons, but SOS ETOUSA never seemed to grasp how it needed to change to better prepare for combat. Of the five major commands operating in France in August 1944, Lee's COMZ was by far the least experienced and the least prepared to execute its essential functions in combat.³¹ Lee's SOS, like the Army Service Forces in general, failed to learn and restructure itself appropriately based on the experiences of Allied Force Headquarters (AFHQ) and its functional components. This study helps explain why other rookie senior headquarters, to include SHAEF, 21st AG, and FUSAG, managed to avoid this fate.

³¹ Those commands were SHAEF, 21st AG, 1st U.S. AG (FUSAG) or 12th AG, 6th AG, and COMZ. As will be explained in chapter three and four, ETOUSA was largely synonymous with COMZ by January 1944, although ETOUSA had some measure of additional authority because Eisenhower was its commander.

The final novel insight revealed by this study is the interconnected nature of the various echelons of a chain of command for a theater can restrict the freedom of action of any one agency, even the one that is notionally in charge. Campaigns demand that some headquarters synchronize a logistical distribution system by selecting and sequencing maneuver objectives in a transparent and predictable staff process. Any attempt to bifurcate responsibility over the sustainment and maneuver functions runs the risk of ordering advances that are logistically impossible to accomplish, or in the building of logistical systems oriented on efficiency rather than on effectiveness in achieving the goals of the campaign. The needs of the fighters and the sustainers are equal in the long run, but both must be focused on achieving operational objectives. They must be supervised in this process by a senior headquarters equipped with adequate knowledge to make informed recommendations to the commander. In August 1944 COMZ was still a garrison command, one that was largely disengaged from planning and managing theater-level logistics in France. SHAEF had progressively taken over planning and integrating sustainment with combat operations between March and June, but it had not yet realized that COMZ was also unprepared to manage and synchronize the technical staff sections and service troops that would fall under their control in August. By mid-September it had become obvious to SHAEF that COMZ could not fulfill its promises and could not manage the theater distribution system, driving LTG Gale, SHAEF's Chief Administrative Officer (CAO), to assume that function at his level. This realization emerged simultaneously with the battle between Eisenhower and Montgomery over control for the direction of the ground campaign. Misled by Montgomery, Bradley, and Lee, Eisenhower allowed secondary attacks to proceed while postponing the opening of Antwerp. At the most critical stage of the Overlord campaign, no one headquarters had the accurate information needed to help Eisenhower make an informed

choice, nor did SHAEF have a functional process to bring all of its subordinates together and hammer out a consensus in the face of that shortfall. In early September, everyone was responsible for integrating maneuver and logistics, and therefore no one was in charge.

Why COMZ and SHAEF Were Not Ready By August 1944

If one agrees with the assertion that COMZ was not ready to do its job in combat in August 1944, and that SHAEF still had a few gaps in the full range of capabilities it needed to have, the next logical question that leaps to mind is why this was the case. These shortfalls are especially puzzling when one considers that the Allies had almost twenty months of combat experience in the Mediterranean to draw upon by this stage.

One of the most significant obstacles to effective learning within the sustainment community of the U.S. Army in 1942 was their collective reaction to the experience of MG James Harbord's SOS in France in 1918. During the Great War the U.S. Army never learned how to successfully manage a communications zone or how to balance the needs of the combat and sustainment portions of the expeditionary force. This issue was never formally resolved after the war, but the Harbord/Hagood School managed to ensure that their preferred solution was the one captured in the education system and doctrine on logistics.³² Officers who graduated from the U.S. Army's Command and General Staff School and from its War College during the 1930s were pre-disposed (as a result of these two educational experiences) to accept Harbord's school of thought, which claimed that the senior logistics commander needed a

³² Johnson Hagood was a colonel during World War One, where he served as commander of the advanced sections (ADSEC) of the Line of Communications of the American Expeditionary Force (AEF) and then the chief of staff of the SOS under Harbord. After the war he returned to the Coastal Artillery where he held a series of commands until his retirement in 1936.

measure of autonomy from the general in charge of the theater. The solution that had been proposed in 1918 was to give the SOS commander two superiors. He would answer to both Washington, D.C. (either to the Chief of Staff or to the Secretary of War) and to the theater commander. Although rejected at the time, this was the initial approach adopted by the U.S. Army upon entry into World War Two. One of the many dangers of such a construct was the suggestion that a combat zone or overall theater commander could ignore the logistical aspects of their campaigns, counting on the SOS commander to provide exactly what was needed at the right time and place. U.S. doctrine covering these issues also offered little on exactly how the competing priorities of the combat and communications zone commanders would be adjudicated between the theater command and the War Department. Nevertheless, this was the intellectual starting point for how key leaders in the U.S. Army thought about theater command and control and sustainment at the beginning of the war, two issues with which almost no serving officer had any personal experience.

It was fine to enter the war with less than perfect doctrine; that tends to be the norm. It was far more damaging when the U.S. Army failed to learn from the experience of others, and then from its own campaigns, both in North Africa and in the Pacific. The British military had exceptionally well-developed concepts for how to run a theater and how to coordinate the activities of all three services by late 1942. They also generally understood how to launch and sustain expeditionary campaigns, and they were making steady progress in figuring out how to support mobile warfare in an austere environment as a result of the Desert War. AFHQ, ETOUSA, and NATOUSA benefitted from exposure to their British partners, learning how to operate joint-combined headquarters, plan and conduct campaigns, and run theater sustainment networks in concert with the needs of the fighting generals. Both the British and American

headquarters participating in the North African campaign generated summaries of their lessons learned, wrote provisional unit histories, and shared emerging techniques for organizing and running large staff sections. But the U.S. focus tended to fall at the lower, tactical level, and fixate on combat tasks rather than on large-scale organizational and logistical issues. The U.K. took a different approach and collected lessons at the army and army group level, but these documents seemed to gain little purchase with Somervell's ASF or Lee's SOS. The Americans seemed resistant to any fundamental revision of U.S. doctrine, and Lee never fundamentally reorganized or reoriented the SOS staff prior to its departure from the U.K. SOS seemed resistant to the idea of integrating the operational experiences of their peers fighting in Africa and Italy. COSSAC, ETOUSA, 21st AG, and FUSAG were far from perfect in their efforts to prepare for operating conditions that they would face in France, but they were far enough along to survive the transition to new commanders in early 1944 and their introduction into combat between June and August. SOS seemed unique in its inability to adequately prepare itself to function under combat conditions prior to leaving the U.K.

One of the reasons it was so hard to figure out how to run a theater was the fact that two major variables shaping the problem changed continually from the summer of 1942 to the summer of 1944. Theater command and control was a shared responsibility of the joint-combined, U.S. theater, and national ground and logistics commands, with superiors in London and Washington playing a powerful role as well. Each time something fundamental changed within one of these organizations, such as the rotation of a commander, it could impact all other actors. The process began with AFHQ, which had to grow into its job. When the command was created in August 1942 no one knew how a combined-joint operational headquarters was supposed to work, and it took until May 1943 for its structure, area of responsibilities, and

governing processes to iron themselves out. This evolution was complicated by numerous changes to the way its subordinate commands were organized, the introduction of NATOUSA in February 1943, and the merger between AFHQ and portions of the British Middle Eastern Command, all while fighting the Axis in a tough campaign. COSSAC and ETOUSA watched this flurry of adjustments and tried to keep pace while confronting organizational challenges of their own. Similar disruption was created when a new team of commanders and staff officers arrived from the Mediterranean at the end of 1943 to take up their positions for Overlord. Many of the key players remained the same, but some were new, or had been away from Eisenhower, Smith, and Gale for almost a year. In many ways, SHAEF and some of its subordinates were still adjusting to the new structure and personalities introduced in January and February 1944 well into the pursuit phase of Overlord.

While AFHQ learned how to manage and sustain a joint campaign, ETOUSA was trying to reconcile the role U.S. doctrine assigned to a theater command with reality in the U.K. in 1943. LTG Jacob Devers played the key role in the battle to determine exactly what ETOUSA was for, and what authority it had over its air and logistics components relative to their “other” bosses back at AAF and ASF. By mid-summer 1943 ETOUSA was focused almost exclusively on preparing for Roundup, which generated increasing levels of friction with Lee and his staff at SOS. Devers’ eventual solution was to stand up a small First U.S. Army Group (FUSAG) staff team, transfer much of the operational planning burden to them, and direct them to work with the British to prepare for Overlord. Left largely undisturbed by operational concerns, the SOS staff continued to execute Bolero, leaving the technical details associated with Roundup to special staff at ETOUSA. Although officially answerable to Lee, the senior and experienced officers in charge of these sections were largely left to their own devices. This inattention was odd because

the battle for control over the special staff sections assigned to ETOUSA had consumed much of Lee's attention since June 1942. Lee eventually won control over the technical service sections only to largely abrogate his responsibility to coordinate their activities. As a result of the logistical breakdown in September 1944, SHAEF informally revoked that authority in October, taking over the supervision of a few key sections themselves. The failure of the SOS and then COMZ staff to exercise the function that Somervell and Lee had fought so hard to consolidate under the senior theater logistician remains one of the most puzzling developments in the history of ETOUSA, and the most harmful to SHAEF in August through October 1944.

SOS suffered from two disadvantages that made it difficult for them to adequately prepare for the role and conditions they would face in France. First, and most importantly, it is very difficult to prepare for a future mission while simultaneously executing a very challenging one in the present. For most of its history, SOS found themselves taxed pulling off Torch and then Bolero; there was very little organizational energy left over for Roundup/Overlord. Second, Lee seemed to have a personal blind spot for the operational big picture, and he lacked both the ability to envision how combat would challenge the COMZ and the wisdom to prepare it accordingly. He certainly tried to do both, and encouraged his subordinates to do the same, but Lee always seemed to find a reason to delegate oversight of operational planning to someone else. By the spring of 1944, responsibility for planning and synchronizing support to the U.S. combat formations had been outsourced to SHAEF, FUSAG, ADSEC, and FECZ. Technically these last two formations were components of SOS/COMZ, but in reality, they received almost no support or oversight from Lee, and had better ties with the combat staffs than their higher headquarters.

When COMZ took over in August, it was responsible for a much-reduced scope of duties than had been contemplated a year earlier. All that remained was the management of the theater rear area -- running the requisition and distribution system and coordinating with ASF for support to the theater. But within days of taking over COMZ demonstrated that they could not handle this mission. Having anticipated the importance of trucks and cargo aircraft during the early stages of a pursuit, SHAEF and COMZ could not maximize the potential they offered, and Lee's team wasted much of the hauling capacity that was available delivering thousands of tons of supplies no one had asked for and contributed very little to maintaining pressure on the Germans. Between 25 August and 11 September, the U.S. Army had to periodically stop moving and await the delivery of fuel, giving Hitler just enough time to man the *Westwall*. COMZ's dysfunctional requisition process and ineffective supervision of Ross' OCOT directly contributed to the breakdown of the Allied offensive. SHAEF's mistake was recognizing this shortfall too late to avert the crisis and doing too little to convince Eisenhower to make fundamental organizational changes when suspicions first arose among the senior logisticians on the staff. SHAEF also shared in the blame for the breakdown of the pursuit because they had not rigorously tested the procedures they directed AEF to put in place, through Combined Air Transport Operations Room (CATOR), to synchronize large-scale aerial resupply. SHAEF understood this capability would be important during the pursuit but did not validate that theater procedures worked before trying to implement them in mid-August.

COMZ and, to a lesser extent, SHAEF failed the first major tests of the sustainment system in August and September despite having a number of major advantages working in their favor. Gale and Montgomery had both advanced to senior rank in an army that now had extensive experience in expeditionary campaigns where the competing demands of logistics and

maneuver had to be carefully balanced. Gale had built a structure for controlling theater logistics with which he was comfortable while at AFHQ, but he was unable to accurately gauge COMZ's capabilities and to help them with their problems over the summer because of a lack of open communications between himself and the key players in the command. By September Gale realized that COMZ had major internal problems and appealed repeatedly to Smith and Eisenhower to authorize a major shakeup. In early October Eisenhower quietly allowed Gale to assume de facto control over the special staff at ETOUSA and to take over several functions COMZ had recently dropped, but it was too late to save the fall campaign. Besides working more closely with Gale, Lee could have benefitted from learning and selectively copying a number of the healthy staff techniques frequently used at 21st AG that helped to integrate combat activity and support at the operational level. Montgomery had a system that not only worked during the stalemate in Normandy but was equally effective in the period after the breakout but before the restoration of rail service into central Belgium. There was a real give and take in the British system; sometimes the needs of the sustainment command took precedence, and other times logisticians were asked to accept a lot of risk in order to help accomplish a critical maneuver objective. Regardless which function was prioritized in the short term, Montgomery had a deliberate process equipped with accurate information with which to make his decisions. Many of these techniques were successfully taught to 12th Army Group between May and July, but they were not passed along to COMZ.

It is easy to list the major reasons why SHAEF and COMZ struggled with logistical support in the fall of 1944 after the fact, but these factors were far from obvious at the time, and they grew more difficult to identify after the war ended. What exactly happened during the preparation for and execution of Overlord was deliberately skewed in a report Eisenhower

submitted to the Combined Chiefs in January 1945. The Supreme Commander's perspective was perpetuated by Lee and a few other confidants who served in the ETO in order to protect both their own and Eisenhower's reputations. Eisenhower had learned from the mild rebuke he received from Marshall and Somervell during their visit to Algiers in January 1943, and he decided to get in front of criticism that he knew had bubbled up from Montgomery to Brook and on to the CCS, just as soon as the German counteroffensive in the Ardennes had been contained. The main purpose of his interim report in January was to prevent the CCS directing he appoint an overall ground commander, other than himself, presumably Montgomery if the British had their way. In the process, Eisenhower had to distort exactly what had caused the pursuit to run out of steam in September and October. Eisenhower's version of events presented in the January report went on to influence the USFET General Board's reports on logistics and theater command and control; those documents could not be allowed to contradict his earlier statements. Eisenhower's classified report, internal unit and section histories written in 1944 and 1945, and the General Board reports went on to heavily influence the ETO volumes of the official history of the U.S. Army in World War II. Most of the inaccuracies contained in these sources were not part of a deep conspiracy designed to hide the truth but in most cases a bit of well-intentioned self-delusion and smoothing over of painful details that then entered the historical record. Once responsibility for the individual volumes of the official history was handed out to over a dozen authors, it was even more difficult to reassemble a more comprehensive understanding of the whole. Eyewitnesses knew there had been problems in Europe with the command structure and logistical support to the armies, but no one person could get a handle on the full scope.

The Structure of this Study

This study will attempt to demonstrate how COMZ failed and exactly why this happened in the following manner. Chapter One shows the link between the U.S. Army's experience in France in World War One and the resulting post-war doctrine that attempted to bifurcate control of logistics and combat into separate commands supervised by a theater command and the War Department. It also examines how U.S. and U.K. capstone doctrine did and did not anticipate and prepare officers to manage expeditionary campaigns in World War Two. It concludes with a summary of the lessons extracted from major amphibious and expeditionary operations conducted by both partners in both of the recent global wars. Chapter Two focuses on Torch, including the preparation for the invasion, the evolving approach to commanding the theater, and the efforts of both the United States and the United Kingdom to learn from the experience and share that information with unengaged organizations. The chapter also demonstrates the fact that the changing nature of the follow-on amphibious assaults probably diluted the lessons about theater logistics and transportation that were so clear after Torch. Chapter Three traces the way command relationships changed within ETOUSA and its pre-cursor commands between the summer of 1942 and the end of the war, and it treats the various ideas presented by eyewitnesses about what was wrong with that structure and how it might have been improved. Chapter Four goes into additional detail on how Lee's SOS and Ross' OCOT worked in the U.K. This includes their involvement in ETOUSA's struggle to assemble a troop basis and write scopes of work for the major projects (PROCO) that would have to be completed in Normandy, documents that could survive the scrutiny of a War Department that was realizing it did not have the manpower or material to give everyone all they asked for. Chapter Four ends with an overview

of the problems internal and external observers reported to exist at SOS that spring on the eve of Overlord.

Chapter Five digs into the systems established at SHAEF by Gale to plan logistical support and integrate those activities with the needs of the fighting forces. The second half of the chapter examines how well that decision-making mechanism worked in France, reexamining the big half-a-dozen recommended adjustments to the campaign from July to October. Chapter Six examines how COMZ and its subordinates attempted to control logistics on the continent and offers a list of organizational and procedural problems that directly contributed to the collapse in support over the course of the pursuit. Chapter Seven focuses on failures of execution, examining how SHAEF and COMZ failed to adequately manage its fleet of trucks and cargo planes, and what it would have taken to fix the fuel delivery problem. The chapter ends by contrasting the struggles of COMZ with the healthy sustainment and maneuver integration process at 21st Army Group. This section shows the way in which Montgomery, aided by Gale and the logisticians at SHAEF, managed to avoid most of the mistakes that crippled 12th Army Group in the last week of August and the first two weeks of September. Many of these techniques could have been implemented at COMZ before the invasion, and would have required no additional resources. COMZ failed to learn between August 1942 and August 1944, from Gale and his team at SHAEF, from 21st Army Group, and from NATOUSA, with devastating effects on the fall campaign.

Chapter 1 - U.S. and British Baggage

A critical analysis of the U.S. Army during its first year of combat in World War Two quickly shows that it was woefully unprepared for theater-level expeditionary operations. When it came time to plan Operation Torch in detail in the summer of 1942, the Americans at Allied Force Headquarters (AFHQ) in London and the planning team within the War Department in Washington, D.C. quickly proved themselves unable to plan an amphibious operation that was intended to rapidly transition into a major ground campaign. The U.S. Army struggled to fill out an effective joint-combined operational headquarters; conduct collaborative planning with their superior and subordinate organizations; and equip, mount, and transport a balanced air-ground force capable of sustained operations in a distant theater of war. These facts were all the more surprising when one considers the qualified success of expeditionary warfare in France in 1917-1918 and the examples available from 1939 to late 1941. Given these examples from its own comparatively recent past, why was the U.S. Army so unprepared in 1942 to execute the tasks assigned to an operational and strategic military headquarters? Even more disturbingly, after another eighteen months of operational experience, why was LTG John C. H. Lee's Communication Zone (COMZ) so unprepared to perform its duties in France in early August 1944?

This chapter begins to answer that question by examining foundational thinking of both the U.S. and U.K. militaries and the consensus that framed their approaches to operational planning and theater-level warfare. The story begins with the U.S. Army's institutional reaction to its experiences in World War One and how those conclusions were codified into its capstone doctrine. By 1942 this doctrine was showing its age. It was either too vague or too internally conflicted to offer much help to inexperienced field grade officers operating at the army, theater,

and joint-combined level for the first times in their careers. This opening chapter draws a link between the U.S. assessment of the command and control and sustainment lessons from World War One, problems with Allied capstone doctrine that failed to identify and confront generalities and inconsistencies in theater command and logistics, and the reception and integration of new operational experience between 1939 and late 1942. It tracks the ways power came to be centralized in Washington at the expense of theater commanders and the ways doctrine captured the preference for an overly drastic division of labor between maneuver and logistics efforts. It also exposes the absence of any U.S. concept of how to wage modern operational warfare as a joint-combined team. Because of their long tradition of expeditionary warfare and their radically different approach to capturing doctrine, the British military was in better shape in early 1942, and well positioned to help the U.S. Army function in combat.

The chapter exposes two problems with the U.S. Army during its first two years in World War Two. First, it began the war with an imprecise vision of how theater-level command and control should work and no real idea of how to integrate maneuver and sustainment and then manage the communications zone necessary to make the plan work. Second, and more problematically, it proved resistant to integrating successful practices used by the British and integrating refined U.S. methods into new versions of key manuals as the war progressed. There were preconceived notions of how theater sustainment should work in which senior logisticians were so thoroughly indoctrinated that those ideas delayed their recognition of the need to adapt and innovate. This problem was reinforced by a second tendency to formally divide responsibility between the combat and sustainment functions to such a degree that coordination and cooperation were extremely difficult. These two waves emerged and collided in August 1944, preventing the Allies from breaching the Siegfried Line during the pursuit across France.

The fact that Lee's COMZ did not know how to do its job in August 1944 and that effective communication had broken down among SHAEF, the COMZ, and 12th AG was only understandable if one appreciated the role played by historical experience and doctrine in slowing the evolution of the U.S. Army during World War Two.

Entering a new war with misconceptions about what would work, and thus with vague or outdated doctrine, was not unique to the U.S. Army. It tends to be the norm, and professional armies understand that this will be the case and aim to adapt to the new realities as quickly as possible.¹ Starting the war with the least irrelevant or counterproductive doctrine is one realistic goal, and adapting faster than the enemy is a second. The U.S. Army inadvertently altered some of the useful lessons picked up near the end of the Great War and failed to thoroughly analyze some developments to draw useful conclusions, incorporating these vague, contradictory, or invalidated ideas into capstone doctrine extant in 1942. Some lessons were retained in doctrine, but insights, never properly analyzed and captured, were lost. Some lessons and their implications were lost to the U.S. Army when bureaucratic changes or budget constraints eliminated the ability to disseminate them to new officers and organizations.

Despite demonstrating the ability to learn very quickly in combat, the U.S. Army seemed exceptionally resistant to institutional learning and reform. Doctrine, professional education, training methodologies, and some War Department processes seemed to be frozen in amber. Units working in active combat theaters quickly identified the gaps, adjusted, and tended to be

¹ Michael Howard, "The Use and Abuse of Military History" (lecture, RUSI, London, October 18, 1961), 5. Howard notes how difficult it is to figure out what happened and why in the last war and then successfully utilize these insights in the future, after so many other conditions had changed in the intervening years. When General David Perkins was the Combined Arms Center commander from 2011 to 2014, he repeatedly warned audiences that contemporary doctrine was going to get a lot of things wrong and that one of the most important skills an officer needed was the ability to recognize the disconnect between what was written, what they were seeing in the field, and how to reconcile the two.

working at a high level in a matter of months. But because the institutional Army refused to prioritize reconciling doctrine to the reality experienced in combat, each new unit and staff officer had to go through this journey of self-discovery on their own. Not only did doctrine and professional education not accelerate this process; in some cases, it hindered rapid adaptation and preparation for units not yet in combat.²

As we will see, this is exactly what happened to Lee's SOS and ETOUSA, and to a lesser extent, SHAEF and General Omar Bradley's 12th Army Group.³ The difference in the levels of competence demonstrated by the major headquarters that supervised the breakout across France was striking, and it went a long way to explain both the friction among the headquarters and the collapse of the U.S. logistics system. ETOUSA and the SOS could not learn by doing; they were not in combat for the first two years of their existence and had no ground partner that was.⁴ This made it imperative that they succeed in a much harder task – to learn from the experiences of others. In order to learn new skills, they first had to disown mistaken conclusions from the Great War, move beyond the limitations of contemporary doctrine, and integrate the successful techniques emerging from the Mediterranean.

This chapter lays out in some detail the concepts that governed theater-level operations in the U.S. Army by late 1942. These were the pitfalls that ETOUSA and its SOS needed to move beyond in order to become effective by the summer of 1944. It seeks to explain how the official

² Williamson Murray and Alan R. Millet, *Military Innovation in the Interwar Period* (1998, repr., Cambridge, Cambridge University Press, 2007), 313-314; 322-325.

³ Howard, "The Use and Abuse of Military History", 5. Howard acknowledged how the requirements associated with day to day business during garrison or peace-time duties might completely overwhelm an organization's ability to prepare for war. In chapter three and four we will see how this was the case in ETOUSA and its SOS. This was not the case for their counterparts in SHAEF and the various armies and army groups that would direct operations in France. A core group of the men that would man these formations spent most of 1943 fighting in North Africa and Italy.

⁴ Chapter three and four will explain why the mission in the U.K. was insufficient to adequately prepare the COMZ for success in combat.

U.S. Army position on what was learned in France created problems reflected in interwar doctrine. It examines what doctrine had to say about theater-level command and control, campaign planning, and the synchronization of combat and sustainment – the principal responsibilities of ETOUSA and the SOS under U.S. doctrine. Because the U.S. Army did not prioritize overhauling its capstone doctrine during the war, it was much more difficult for organizations and individuals that had not served in combat to hit the ground running in a new campaign. Finally, the chapter examines what the British and U.S. Army had learned, and not learned yet, from large-scale joint operations, overseas expeditions, and amphibious assaults that had occurred between 1939 and late 1942. It attempts to explain how the U.S. Army thought about campaigns and theater command and control and to demonstrate the differences between the American perspective and that of the British military. This theme will be expanded in the next chapter, which examines how the two militaries reacted to active operations in North Africa and Italy, and the gulf that developed among senior headquarters within the U.S. Army with and without combat experience.

The first section of this chapter begins the process of demonstrating the linkage between historical experience and the doctrine that emerges from its study; institutions willing to critically examine their own performance tend to write good doctrine and then adapt that doctrine quickly and effectively when confronted by new circumstances. The section examines the strained relationship between the AEF commander, General Pershing, and the third war-time chief of staff of the U.S. Army, General Peyton C. March, which inadvertently resulted in a shift of power from the theater commander to Washington, D.C. during the interwar period. This shift would hinder the efforts of ETOUSA in 1942 and 1943, and it was one of the major obstacles that ETOUSA and SHAEF would have to overcome to successfully invade France. A second

harmful outcome of the AEF experience was the conviction among professional logisticians that maneuver commanders could not be trusted to balance the needs of the combat forces with those of the communications zone. The post-war institutional preference was to formally divide the combat and sustainment missions, their synchronization being supervised by an unbiased theater commander or even by the War Department back in the capital. Lessons from the Great War bounced through U.S. doctrine, professional education, and offices, solving some problems, creating new ones, and eliminating or undermining organizational and procedural changes implemented during the last war that were considered effective at the time. This first section illustrates that the US Army never learned how to conduct theater-level warfare during the Great War and had not made much progress in fixing the problem by 1942. In some cases, it was even harder to do so.

The second section of this chapter examines Allied capstone doctrine published before and during the war. British doctrine tended to be short and seemed to be aimed at high-level officials, offering very little guidance on technique or methodology for inexperienced officers. Senior-level U.S. doctrine was handicapped by unfinished business from the Great War. The authors struggled to rise above an approach to theater warfare centered on tactics and combat. Although more comprehensive than its British counterpart U.S. doctrine still lacked enough details to help inexperienced staff members in identifying and tackling critical tasks and to prioritize and synchronize interconnected efforts. Perhaps the most concerning feature of Allied doctrine was its resistance to meaningful refinement as the war progressed.

Finally, the last portion of this chapter presents an overview of relevant Allied experience and the prevailing lessons gleaned from amphibious and expeditionary operations in the nearly three decades preceding Torch. Real-world experience offered a bridge to more open-minded

and effective thinking about expeditionary warfare. For the U.S. Army this was a long and painful process, complicated and hindered by their doctrine and institutional preferences on how to organize senior headquarters. Lessons learned from operations in the three decades prior to 1942 reinforced some allied misconceptions, but in general these historical examples offered valuable insights into which tasks were critical to successful expeditionary warfare. Luckily for the chances of Allied success in the ETO, the British experience resulted in a more mature and balanced approach to theater operations, in which commanders were expected to control two or three services and to integrate strategic and operational logistics for the conduct of far-reaching campaigns. This model would allow the Americans to lean on and learn from the British while they aspired to develop an effective alternative approach of their own.

The U.S. Army in the Long Shadow of the Great War

The AEF experience in the Great War produced two powerful reactions in the United States Army that would redefine the relationship between the chief of staff and theater commanders and would change the prevailing opinion of the best way to sustain combat forces. Answers to these unresolved issues were institutionalized throughout the 1920s and formed the initial American consensus on the best way to run a theater of war in early 1942. Fixing the imbalance between the authority of the center, on one hand, and the freedom of choice within the theater, on the other, as well as figuring out how to effectively run a continental line of communications that was synchronized with operational maneuver were the two critical tasks facing the U.S. Army before it could fight its way back into France in World War II. The nature and scope of the disagreement over the proper relationship between Washington, D.C. and a

theater commander, and the frustration over the level of coordination between sustainment and combat forces is the subject of this section of the chapter.

The formal division of duties between the last Army chief of staff serving during World War I, General March, and the commander of the American Expeditionary Force (AEF), General John J. Pershing, was ill-defined and resulted in increasing friction between the two men during the last six months of the war. Second, a lack of resources and a troubled relationship with the GHQ left the Service of Supply (SOS) for the AEF struggling to accomplish its mission. The theater staff located at Chaumont directly contributed to this dilemma, first through neglect and then with a series of decisions that prioritized short-term combat requirements at the expense of the long-term sustainability of the U.S. force in France. Both sources of friction contributed to postwar solutions that moved the needle too far in the opposite direction, producing unintended consequences that the U.S. Army would have to grapple with during the first two years of World War Two.⁵

The disagreement over the authorities and duties of the U.S. Army Chief of Staff and those of the commander of the AEF developed over the last eight months of the war. Pershing enjoyed unimpeded power and autonomy during his first year in command, having been given a blank check by Secretary of War Newton D. Baker and President Wilson and by the first two war-time chiefs of staff.⁶ This changed when March was released from his position as Pershing's chief of artillery to become the U.S. Army chief of staff in January 1918. By law the chief of staff was the most senior officer in the U.S Army, responsible for raising, training,

⁵ Robert K. Merton, "The Unanticipated Consequences of Purposive Social Action" *American Sociological Review* 1, no. 6 (December 1936): 894-904. Merton would classify the difference between what Pershing and Harbord hoped to change as a result of their wartime experiences and the unbalanced relationship between the War Department and ETOUSA in the summer of 1942 as a backfire or perverse result.

⁶ Brian Neumann, "A Question of Authority: Reassessing the March-Pershing "Feud" in the First World War" *Journal of Military History* 73, no. 4 (October 2009): 1119.

equipping, and deploying an army, and then for commanding the elements of that army in the field, as directed by the civilian chain of command.⁷ There was a loophole in the authorities granted to the “Commanding General of the Army” that underwrote Baker’s personal preferences and resulted in Pershing’s primacy during the first year of the war.⁸ Baker wanted March to focus on the training, equipping, and deploying forces while leaving their overseas employment to Pershing.⁹ It was a division of labor that was logical, and its simplicity fit the fact that there was only one active theater. In general, both men respected these informal boundaries and tried to maintain a positive working relationship, and March made significant progress in reorganizing the War Department and accelerating the deployment of a large American army to France. But eventually friction did develop between the two men, both Pershing and March straying beyond the informal boundaries of their positions as established by Secretary Baker.

Pershing and March disagreed over four important issues during the last eight months of the war: control over promotions to general officer, shifting officers back and forth between the AEF and the War Department, control over the SOS in France, and responsibility for planning the U.S. force structure goals for the anticipated 1919 campaign. The exact details of each debate are relatively unimportant here, except for those concerning the SOS issue, which we will address in detail below. What mattered was that the written scope of duties for the two positions left room for misunderstanding because of the apparent overlap in responsibilities and the habits

⁷ Neumann, 1123.

⁸ Ibid, 1123. The President could reassign certain functions of the chief of staff to other officers; see footnote 17 and 18.

⁹ Ibid, 1124. Incidentally, this is the current division of labor between the service chiefs and the functional and geographic combatant commanders. The responsibility of prioritizing and integrating the operational commands against one another has been shifted to the Joint Staff and the Office of the Secretary of Defense. Secretary Baker was ahead of his time in seeing the need for two distinct nodes of power within the War Department. Of course, his solution would not have been so elegant had there been additional active theaters.

that developed between the War Department and the AEF during the first year of the war. March's brash personality and a general mistrust of the War Department among the AEF staff tended to escalate relatively minor problems into a series of dramatic confrontations.¹⁰ Viewed dispassionately, Pershing and the AEF tended to be in the wrong on each issue, taking too narrow a view and ignoring the needs of the Army as a whole – something they had gotten away with for entirely too long to fix quickly or easily. In hindsight, historians have leveled the charge that Pershing and his staff did not understand how to run a theater of war and that they did not know how to employ the SOS they had created. Nor, critics say, did they maintain a healthy balance between the needs of the combat units and the service troops supporting them.¹¹ Regardless, Pershing and his SOS commander and most trusted subordinate, MG James Harbord, emerged from the debates of 1918 with a strong desire to prevent future “meddling” by Washington in the affairs of a theater commander. Pershing and Harbord found themselves in a position to enact that plan when they became the chief and deputy chief of staff of the U.S. Army in 1921.

A second major outcome of the Great War, and one interrelated with the friction between the War Department and the AEF during the last six months of the war, was the conclusion that the relationship between the SOS and the GHQ at Chaumont was dysfunctional. Reports of problems in the SOS during the first half of 1918 reached Washington and caused enough concern that Secretary Baker, General March, and Edward House, a close political advisor to the President, began to develop alternative schemes for running the organization. After a bit of brainstorming, March and Baker offered to send MG George W. Goethals to take over the SOS.

¹⁰ Neumann, 1127.

¹¹ David D. Dworak, “Victory’s Foundation: U.S. Logistical Support of the Allied Mediterranean Campaign, 1942-1945” (PhD diss. Syracuse University, 2011), 27.

Goethals was an experienced and respected officer serving in a position that was in effect the War Department G-4. Under this plan, Goethals would become Pershing's military peer and equal, collaborating and coordinating with him, but answering to the War Department. March explained the offer as an attempt to relieve Pershing from the burden of diplomatic engagements with the civilian governments of Great Britain and France, which would allow him to focus on combat operations, but Pershing predictably focused on the fact that he would lose authority over his logistical support structure. Pershing replied to the Chief of Staff in July that he would welcome Goethals as a new commander for the SOS as long as the command remained subordinate to him, but he made clear that an autonomous SOS that needed to please two bosses was a recipe for disaster.¹² Goethals would be responsible for providing logistical support to Pershing, but running the communication zone in such a manner as to please March, and the two priorities would inevitably result in friction from time to time. While trying to win his argument with Washington, Pershing also took steps to appoint one of his most trusted and experienced subordinates, General James Harbord, as the commanding general of the SOS. Pershing realized that this impetus for change coming from outside the theater was motivated by various failures in the SOS, and to hold off that push he would have to fix the problems himself, and quickly.

Harbord was the right man for the job, but after six months of herculean effort he concluded that the shortcomings of the U.S. SOS could only be fixed with a massive influx of resources and increased authority relative to the GHQ at Chaumont. By November 1918 Harbord was calling for a reorganization that was just short of an endorsement of the original recommendation presented by House, March, and Baker. Harbord started his stint as the SOS

¹² Neumann, 1132.

commander enjoying the full confidence of Pershing, and with a deep understanding for how the man thought and operated. He also had extensive authority over all activity in the SOS from ports to regulating stations and had Pershing's permission to directly engage the War Department without prior coordination with GHQ.¹³ Shortly after taking over at the beginning of August, Harbord discovered two major problems confronting his command: low morale among the officers and men, and a significant mismatch between requirements and resources to get the job done. Addressing the morale issue was relatively easy; Harbord decided that the best solution was to get out and tour the command, discovering problems, fixing as many as he could on the spot, and showing his men that he cared about their challenges. The French government provided a small train that Harbord used as a mobile headquarters, manned by a small portion of his staff and outfitted with telegraph and telephone capabilities that allowed him to remain in frequent communication with his staff at Tours and the GHQ at Chaumont.¹⁴

Unfortunately, after Harbord had done all he could in moderately improving unit morale, the fundamental issue facing the SOS remained: a manpower shortage compounded by insufficient ships and rolling stock. Harbord also discovered that these shortfalls were exacerbated by questionable decision-making going on at GHQ. The cause of the problem had started in May; under pressure from the French, and in reaction to the Ludendorff Offensive, the United States had agreed to frontload new combat divisions at the expense of service troops.¹⁵ In May and June the U.S. shipped 420,000 men more than the initially planned allocation for those two months, but it did so at the cost of cutting back the proper ratio of service to combat

¹³ Brian F. Neumann, "Pershing's Right Hand: General James G. Harbord and the American Expeditionary Forces in the First World War" (PhD diss., Texas A&M, 2006), 360, 370, 373. Harbord had served as the AEF chief of staff and commanded a brigade and division in combat.

¹⁴ Neumann, "Pershing's Right Hand," 374.

¹⁵ Neumann, "Pershing's Right Hand," 384.

troops from 25 to 12% of the force.¹⁶ The GHQ compounded SOS shortages by culling able-bodied men from service units three times during the summer of 1918 to use as emergency infantry replacements. By 1 October 1918 the SOS was short 80,000 men, or 22% of its authorized strength. Service troops comprised only 23% of the total American force in theater rather than the 25% goal established by the War Department or the 33% threshold judged necessary by Harbord.¹⁷ On 1 November 1918 the SOS had only 1,100 of the 4,000 officers authorized for the command.¹⁸ The activation of the 1st U.S. Army in August had generated an additional drain on service troops from the SOS and contributed to the dire situation in November.

Harbord used the authority of his position and his relationship with Pershing to engage the commander directly about the damage caused by raiding the SOS to meet needs at the front. But on three separate occasions in August and September the GHQ, endorsed by Pershing, responded to Harbord's complaints by reiterating that the needs of the combat units had to take priority over the long-term health of the line of communications.¹⁹ As a result, the drain on service troops, transportation assets, and infantry replacements continued. Pershing and the GHQ found it extremely difficult to protect the SOS while using the U.S. Army to maintain pressures on a steadily collapsing German Army. Pershing and his staff knew they were making it extremely difficult for Harbord and the SOS to accomplish their mission, but they were banking on solving the problem by breaking the German Army and ending the war before the SOS collapsed.

¹⁶ Dworak, 34.

¹⁷ Neumann, 384-385.

¹⁸ Dworak, 37.

¹⁹ *Ibid*, 388.

Manpower shortages were only half of the equation causing the SOS fits in the final months of the war. The U.S. lacked enough cargo ships to supply an AEF any larger than its current 40 divisions, and the French and British refused to reallocate transport to pick up the shortfall. This decision was probably a blessing in disguise, because Harbord did not have the men to unload any additional cargo and then shift the supplies to the east. The SOS transportation problem was driven by the fact that the American railway service in France was collapsing by early November, operating at 73% of the engines and 32% of the cars needed to support 40 divisions at the front.²⁰ Motor transport could not pick up the slack; despite the fact that the AEF received 51,554 trucks from the United States during the war, post-conflict analysis determined that this number represented about half of the trucks required for the mission.²¹ The U.S. campaign plan for 1919 called for an additional twenty divisions at the front, yet without a plan to overcome the service unit, merchant marine, and rolling stock shortfalls crippling American logistics. Had the war required a spring campaign in 1919, it would have been a struggle for the U.S. Army to maintain the force already assembled; increasing the Army by another 20 to 40 divisions was virtually impossible.²²

This imminent collapse of U.S. logistics in the fall of 1918 triggered a last round of debate over the best way to organize the SOS. In October Harbord started a relatively minor initiative to transfer authority over the corps regulating stations from the AEF G-4 to his

²⁰ Ibid, 395.

²¹ Grant T. Weller, “‘Come Hell, High Water or Nazis’: The U.S. Army Quartermaster Corps Develops and Implements The First Motorized Logistics System, 1919-1945” (PhD diss., Temple University, 2007), 48-49.

²² There was considerable debate among Baker, March, and Pershing as to what the U.S. combat strength goal in 1919 was to be. Foch told Baker in September that he needed no additional U.S. divisions to defeat Germany. Baker and March planned on sending twenty more combat divisions to France by the spring of 1919, and Pershing had asked for (and was still assuming he would receive) 40. See Neumann, “Pershing’s Right Hand,” 394-395 and Neumann, “A Question of Authority,” 1135. Washington was working on a plan to reinforce France with twenty divisions while Harbord and Pershing believed they had to move and sustain 40 new divisions. That is why Baker and March did not completely agree with the AEF’s concerns over shipping, rail assets, and the number of service troops.

command, a step that provoked a disproportionate reaction by GHQ. Driven by Harbord's suggestion to reexamine the authorities allocated to the SOS, combined with emerging cracks becoming apparent across the entire line of communications, the new AEF G-4, BG George Moseley, proposed a drastic counterproposal. Moseley suggested that responsibility for coordinating and integrating logistics should shift from the SOS to the GHQ and fall under his supervision.²³ Harbord and his chief of staff, COL Johnson Hagood, then counter-escalated with an equally dramatic alternative. They thought that the AEF G-1 and G-4 should move from Chaumont to Tours and fall under SOS control, consolidating all aspects of sustainment under Harbord. The SOS would own supply from the port to the trenches, including all the transportation assets involved in the process, and it would retain control over the bureau chiefs while gaining control over the regulating officers. Harbord would coordinate only with the GHQ chief of staff for operations to integrate sustainment with combat operations, and both men would answer only to Pershing.²⁴ The conflicting concepts for reorganization could not be resolved among Harbord, Moseley, the AEF chief of staff, and the G-3. On 3 November Pershing, fully consumed by the final U.S. offensive around Sedan, agreed to shelve the issue based upon the recommendation of Moseley and LeRoy Eltinge, the AEF deputy chief of staff.²⁵ Moseley agreed that the system in place had worked well enough and that other ways to improve the performance of the SOS were probably easier to implement. Since combat operations ended seven days later, the debate was never resolved and would continue to periodically distract the U.S. Army for the next four decades.

²³ Neumann, "Pershing's Right Hand," 403-407.

²⁴ Ibid, 401-402.

²⁵ Ibid, 407.

Pershing and Harbord would outlast the competition, reach positions of power that allowed them to institutionalize their preferred solutions, and win the battle of the narrative. Pershing was appointed the Army Chief of Staff in 1921, and he directed Harbord to join him as his deputy. During their short time together in Washington, they reorganized the War Department to fit their preferences and address their frustrations from the Great War. Authority was formally centralized in the position of the chief of staff, but Pershing envisioned that, upon the outbreak of war, the chief of staff would take to the field as the commander of the Army in the primary theater, his deputy taking up his administrative duties in Washington, D.C.²⁶ Pershing did not address what would happen if there was more than one ground theater or the possibility of a Presidential directive for the chief of staff to remain in the capital. It was ironic that after being frustrated as a theater commander by the “interference” of a strong chief of staff in the United States, Pershing built a system that perpetuated that dynamic for at least some of his counterparts in World War II.

Harbord retained a strong influence over the War Department through his published memoirs and frequent engagement as a civilian businessman. These informal engagements with rising stars in the sustainment community ensured that it was Harbord’s vision of a properly organized and functioning SOS that survived the war, entered doctrine, and dominated the ASF. Stratton cited “Harboard [sic] and Hagood” in his 4 June 1944 rebuttal to the proposed reorganization of ETOUSA. GHQ, Stratton said, attempted to exert “...an excessive amount of supervision, interference and authority without, at the same time, sharing in the responsibility for the final outcome which still rested on the shoulders of the CG COMZ.”²⁷ While the logistics

²⁶ Neuman, “A Question of Authority,” 1140.

²⁷ Letter, Stratton to Lord, 4 Jun 44. RG 498, UD 578, Box 3857, ADM 238 – Organization, NARA II.

community took Harbord's conclusions to heart, the rest of the Army tried to forget about life above the division level as quickly as they could. Leave logistics to the logisticians. When MG Karl Truesdell visited SOS headquarters in November 1943 while in position as the CG of Fort Leavenworth, he acknowledged that the Army had missed the boat twenty years earlier, turning CGSC into "just an infantry division course."²⁸ His recent experiences had convinced him that Leavenworth needed to evolve and address the gap where ASF, AAF, and AGF efforts were synchronized and integrated with the Navy and allies. The focus of his trip to the United Kingdom was the Air Force and SOS, because they were what was new and different when compared with the American experience in World War One.

Lee paid a visit to Harbord in New York in May 1942 before leaving for London to assume the SOS command; Lee claimed that it was Harbord who convinced him that he needed a train-mounted mobile headquarters to better accomplish his mission.²⁹ Lee asked for authorities basically the same as those laid out in the Hagood Board report. Both parties agreed that the bureau chiefs, service troops, and theater sustainment staff (G-1 and G-4) should answer exclusively to the SOS commander, who in turn was equal to the director of operations. Lee would have to reconcile the one difference between Somervell's and Harbord's approach to control over theater logistics: Somervell favored the Goethals proposal while Harbord still considered it important that the SOS command answer solely to the theater commander.

Anyone serving in the SOS or working logistics in the combat divisions and corps witnessed the shortfalls of the existing system, knew that something fundamental needed to

²⁸ SOS C&S Notes, 1 Nov 43. RG 498, UD 578, Box 3882, ADM 455, NARA II. Truesdell had served as a signal officer at the division and corps level during WWI, commanded an infantry regiment, brigade, and division and the VI Corps from 1937 to 1941, and had served in a half-dozen assignments at CGSC and the Army War College and on the WD General Staff. He was the commandant of CGSC from March 1942 to November 1945.

²⁹ Lee, *Service Reminiscences*, 83.

change, and were aware of proposed alternatives advanced by the War Department, Harbord, and Moseley. Unfortunately for the U.S. Army, many of the critical lessons generated by the AEF and its SOS were quickly forgotten, ignored, or undermined by a lack of funds in the postwar Army. Transportation – especially motorized transportation – was one of the least mature aspects of U.S. logistics in 1918. Synchronizing the flow of supplies from one mode of transportation to another proved to be a blind spot in the AEF that was not addressed until the last months of the war. Examining the problem immediately after the war, COL Mark Ireland of the Motor Transportation Corps acknowledged that the U.S. Army lacked even a language to describe the critical functions of transportation, let alone the doctrine and professional education venues in which to deliver it.³⁰ To address this gap, the Motor Transportation Corps formed a three-man board on 31 July 1919 and directed it to revise existing regulations and recommend changes to maximize uniformity.³¹ The two overarching themes of the report were the need for centralized control of all motor transport by qualified technical experts and the criticality of effective maintenance throughout MTC organizations.

The development of a Motor Transportation Corps and independent Transportation Service, all synchronized under the control of the SOS commander, was a progressive step for the U.S. Army in France. But the National Defense Act of 1920 drove the Army to eliminate the MTC and to downgrade transportation to a subordinate division under the Quartermaster Service.³² Various leaders realized this was a mistake, but conflicting Army priorities made it impossible to fix.³³ In a lecture delivered to the Quartermaster School in 1927, BG F.H. Pope,

³⁰ Weller, 57-58.

³¹ Weller, 59. The board included COL Ireland and added COL Edgar Stayer and COL William Winters.

³² Richard Killblane, “70 Years of the Transportation Corps,” United States Army Transportation Corps, <http://www.transportation.army.mil/history/> (accessed 11 February 2019).

³³ With shrinking budgets, the traditional branches and services dug to retain as many units and staff positions as possible.

the director of the motor transport section within the AEF, was still espousing the advantages afforded by a central transportation agency, independent of the Quartermaster Service and empowered to synchronize rail, water, and motor assets.³⁴

Once additional resources appeared on the near horizon, the U.S. Army returned to the idea of forming an independent transportation organization. In 1938 three students at the Army War College were directed to outline the resources and authorities necessary to establish a Motor Transport Service under the framework of the Protective Mobilization Plan. These three field-grade officers, representing the Air Corps, Coastal Artillery, and Infantry, produced a textbook example of the right way to develop a new organization with logically associated duties and responsibilities. In a five-part briefing, the team of Ryan, Homer, and Beatie evaluated the lessons and developments from the U.S. experience in France, the harm caused by the 1920 reorganization, more recent international experiences with motorized transport, the failures of the current American system, and a solution. Without an advocate for all motorized transportation, the U.S. had fielded a vast array of non-standardized carriers and prime movers across the branches and services, and the Quartermaster Corps seemed to prioritize generalists within its ranks rather than trying to develop specialized sub-groupings of officers and NCOs.³⁵ The solution was simple – reactivate the Motorized Transportation Corps that had been formed in July 1918 and centralize the procurement, organization, and repair of trucks under their control. The MTC proposed in this report was a much more comprehensive and powerful organization, when it came to centralized control of motorized assets, than the solution adopted in July 1942. The proposal envisioned taking the procurement and repair functions from the Ordnance Corps

³⁴ Weller, 67.

³⁵ Weller, 81.

and the training and organizational function from the Quartermaster Corps and transferring all of them to the MTC. This new service would have selected its own equipment, organized its own units and trained their constituent personnel, controlled their employment in combat, and overseen the purchase, distribution, and installation of repair parts across the fleet.

The Ryan-Homer-Beetie report was hardly revolutionary – it basically assumed that the U.S. Army was headed in the right direction by the spring of 1919 and just needed to follow through to formalize the structure that had been created in France. In September 1939, their report was handed off to a second team of lieutenant colonels, this time two infantrymen and an adjutant general in the War Department, who quickly endorsed the first report and its conclusions. Almost a year later another, more powerful, endorsement for a separate motor transportation authority circulated through the War Department. BG R.H. Jordan retired from his position as the head of the Transportation Division within the Quartermaster Corps on 18 July 1940 and offered a summary of his experiences and recommendations before he left. In that report he recommended that the Quartermaster Corps (QMC) form a fourth division to join the supply, transportation, and construction divisions – a new motorized transportation bureau.³⁶ With increased funding and manpower for defense overall, surely it was time for the Army to address a need that had become obvious in July 1918.

In March 1942 the Army activated the Transportation Division within the War Department SO, adding a separate Transportation Corps on 31 July 1942. Specific authorities for the management of motorized transport remained divided among the Ordnance, Quartermaster, and new Transportation Corps. Despite successful developments in France in 1918, and despite numerous well-written reports between 1938 and 1940, the U.S. Army had

³⁶ Weller, 84-85.

decided against centralizing motorized transport under one powerful organization. As a result, there was no agency with sufficient resources, focus, and influence to equip the U.S. Army with a suitable wheeled transporter fleet backed up by adequate maintenance units and stocks of repair parts. Doctrine and education covering motorized units, the integration of all methods of transportation, and detailed command and control of transportation within a sustainment and theater context remained vague, because no one organization was given a mandate to develop them.

What might seem to be a minor issue in the global distribution system developed by the U.S. Army during World War Two was disproportionately important under some circumstances. There were short but critical windows during some campaigns when motor transport provided the preponderance of logistical support to mobile forces. This tended to be the case when mechanized forces penetrated deep inland, moving hundreds of miles away from the closest working ports. This relatively unimpeded movement after a breakthrough was the payoff, the reward, for all the energy, resources, and lives traded to achieve a breakthrough, and it needed to be continued for as long as possible. Rail infrastructure tended to get destroyed during the opening moves of the campaign, requiring a lot of time and resources to fix. Therefore, the burden for sustaining advancing forces fell heavily upon motor transport during the key stages of the pursuit. The more efficiently trucks could fuel the advance, the more numerous the operational advantages that could be secured before the return of equilibrium between the two forces.

The cycle described above played out in August and September 1944 across central France. Allied logisticians were innovative and relentless, but the motor transport resources available to the U.S. Army were insufficient to achieve the operational objectives established for

the pursuit by SHAEF. Various leaders were concerned about the quantity and capacity of the motorized transport projected to support Overlord well before the crisis that summer; an overall shortage of repair parts and service troops in the U.S. Army was recognized in 1942, problems with the composition of the U.S. truck fleet and number of truck companies available in France were recognized in the summer of 1943, and the expectation of a transportation crisis projected for D+90 was common in SHAEF by April 1944. As strange as it may seem, two years had been too little time to solve some of these problems; only the activation of a powerful MTC or TC in the 1930s would have offered the best chance of anticipating and solving these challenges.

It is not the purpose of this study to examine in great detail the lessons drawn by Americans from World War One, or to study the inner workings of the U.S. military bureaucracy between the two wars. What is clear, however, is that “lessons” cut both ways – sometimes the correct conclusions were reached but could be acted upon. Knowing you messed something up is not the same as knowing how to fix it, and solutions to one problem are just as likely to create new, unanticipated ones. Large bureaucracies are inherently resistant to change, and their component elements fight to retain turf for a variety of reasons. The result in the U.S. Army leading up to American participation in World War Two was inconsistent messaging among branches and services and between the War Department and overseas commands that resulted in inconsistent doctrine, education, and opinions among senior leaders about the best way to organize and operate. By 1942 the U.S. Army had shifted the balance of power to the center at the expense of theater commanders, bifurcated control over combat and sustainment functions while emasculating any potential synchronizing agent, and consistently postponed needed reform in the motor transportation field. Each of these problems would be reflected in U.S. doctrine and

present concrete barriers to operational success in North Africa and France that the Allied joint-combined headquarters would have to identify and overcome.

Allied Doctrine for the Organization of Theaters and Large Units

This uncertainty about how to run a theater of war becomes apparent in any examination of Allied military doctrine aimed at the highest echelons of the Army as it existed in 1942, especially when it came to explaining exactly how to synchronize combat and sustainment operations. By examining capstone manuals published between 1942 and 1944, one can reach three main conclusions. First, Allied doctrine was too vague. U.S. doctrine imperfectly described a process that had not been mastered in the modern era – managing a communications zone and integrating maneuver and sustainment. The idea most prevalent at the end of the Great War was embraced more than two decades later, namely, to preserve the resources and independence of the logistician by walling him off from the combat commander. Unfortunately for the reader, no U.S. doctrine outlined exactly how to manage this large command or who would integrate their efforts with those of the combat command, and how exactly to go about that task. Second, British capstone doctrine was too imprecise and non-descriptive to bridge the gap, even though their long tradition of independent joint command and expeditionary warfare resulted in a better appreciation of the nature of the problem. Finally, mid-war rewrites of *FM 100-10* and *FM 100-5* did not convey the effective techniques that had emerged in the Mediterranean and Pacific theaters. The 1942 version of *FM 100-15* was not updated at all during the war. In fact, U.S. doctrine actually made the problem of adaptation at the operational level harder; it did not accelerate the maturation of inexperienced staffs into effective teams or help them rapidly assimilate operational experience.

Upon U.S. entry into World War Two, western military doctrine was a flawed tool with which to try to achieve unity of effort. First, there were two unique sets of doctrine: U.S. and British. Second, each country maintained two to five manuals that together constituted official guidance on warfare above the corps level. To make matters worse, this canon was updated periodically on different timelines, and thus it was internally inconsistent. U.S. capstone doctrine consisted of three manuals, all in theory equal in importance, which needed to be understood as a body. *FM 100-5* was mainly a tactical manual that covered operations, with emphasis at the division and below. *FM 100-10* covered sustainment at the tactical, army, and theater level. *FM 100-15* covered operations from army to theater level. The British used a similar division with two volumes given to the field service regulations and a stand-alone document to address administration and logistics (*Manual of Movement, War*). It is safe to assume that combat arms officers paid a bit more attention to the tactical operations manual while technical service officers spent a bit more time with *FM 100-10* or the *Manual of Movement*.

Officers assigned to operational units in the middle of a massive war probably did not have a lot of free time to dig through manuals. Doctrine might be remembered from their last school experiences, either at the Command and General Staff College or the Army War College for the Americans, or at the service staff colleges and Imperial Defense College for the British.³⁷ Most of the flag officers serving in the U.S. Army during the war had attended CGSC in the 1930s.³⁸ Young field grade officers were potentially familiar with the version of these manuals

³⁷ Peter J. Schifferle, *America's School for War* (Lawrence: University Press of Kansas, 2010), 53-61. Schifferle argues that *FM 100-5*, *FM 100-15* (titled *A Manual for Commanders of Large Units* until 1942), and the *Staff Officers' Field Manual* were the most widely used manuals at Leavenworth.

³⁸ Ruppenthal, Vol. 1, 1-10. Ruppenthal provides thumbnail biographies for most of the key flag-officer logisticians, including dates for their attendance at CGSC and the AWC. The majority completed both schools in the 1930s.

completed after the start of World War Two in Europe, but Eisenhower, Smith, and Bradley most likely remembered the editions they had used for reference while at Leavenworth. It is unlikely that individuals were carrying a copy of these manuals in their personal gear, but one assumes that each major headquarters had access to most of the key documents and perhaps even to their latest editions. Commanders and primary staff officers perhaps did not have a lot of time to search through doctrine looking for good ideas, but field-grade officers did, and, since they were short on experience in running theater-level operations, one hopes they turned to doctrine looking for possible solutions. But this instinct would only be rewarded if the doctrine was any good.

U.S. and British doctrine did not help the novice think through how to plan a ground campaign – it was of almost no help in selecting and sequencing a series of objectives to maintain friendly freedom of maneuver while defeating enemy forces.³⁹ British operational doctrine effectively emphasized the need to reach the theater first and then sustain forces once ashore, but it offered little insight on how maneuver and logistics interacted with one another. It was of little practical value to the AFHQ team trying to plan and then control Torch.

The most logical place for American staff officers serving at the army group, communications zone, or theater level to look for clues as to what was important and how to do their job would have been *FM 100-15, Field Service Regulations, Larger Units*. Inexperienced readers would have found it informative when it came to the “what” of managing a theater command, but they would have been frustrated by its lack of details or examples of various

³⁹ Using “defeat” over “destroy” is deliberate here. U.S. doctrine written during World War II focused on destroying enemy formations, while German and Soviet practice demonstrated that deep maneuver might eliminate the combat potential of dozens of divisions by isolating them from their supplies and ability to coordinate with forces outside the pocket. “Defeat” renders enemy forces incapable of influencing friendly freedom of maneuver and eventually leads to their destruction when they either surrender or abandon almost all their heavy equipment in order to escape encirclement.

approaches to “how.” The 1942 version of the manual was about 100 pages long and included sections applicable from the corps to the national strategic staffs of the Army. The first chapter, which was titled “High Command,” focused on the role of the theater commander. A theater commander had two primary responsibilities: first, to coordinate the efforts of air, land, and sea power within his assigned geographical area, and, second, to synchronize combat operations with administrative (logistical) support.⁴⁰ Persistent throughout U.S. doctrine and unit organization was the criticality of allowing tactical combat commanders to focus on defeating the enemy – not on worrying about supplies, replacements, and control of rear areas. Armies and army groups operated in the combat zone, and administration happened in the communications zone. Yes, there was a gray area where the two overlapped and the tactical commander had both responsibility and authority to coordinate the two, but in general it was the theater commander and his staff who synchronized their interaction. One of the key tasks of the theater command was to establish the boundary between the combat and communications zone and move it as appropriate.⁴¹ The mission of the theater commander was handed down by the President or the War Department (or implied from a standing war plan), and it would “usually be general in character and leave great discretion to the theater commander.”⁴² If the commander did not write the campaign plan himself, those who did so, presumably officers at the War Department, were expected to consult with him. The theater commander should remain focused primarily on preparing for future events, might find it helpful to further divide his theater based on the geography or mission, and would retain the ability to intervene at the decisive point if he

⁴⁰ War Department, *FM 100-15, Larger Units* (Washington, D.C.: U.S. Government Printing Office, 1942), 4-7. The manual was updated again in June 1950.

⁴¹ *Ibid*, 5, paragraph 12.

⁴² *Ibid*, 6.

maintained a mobile reserve.⁴³ In other words, the commander had a lot of autonomy. He was likely to face complex problems in conquering time, distance, and sticky chains of authority; but he should not be looking to D.C. for answers.

The most frustrating chapter for the inexperienced staff leader had to be the second one, which covered campaign plans. It was obvious that the selection of individual objectives, sequencing when to tackle them, and the alignment of resources to make success possible lay at the heart of the staff officer's job, but the manual offered no clues about how to go about this task. Nor did it offer any concrete suggestions about the division of labor between the commander and his staff, and how the staff might help the commander do those tasks that only he could accomplish, based on his superior experience and access to external agencies. But the shortcomings of this chapter of *FM 100-15* were partially explained by the fact that the U.S. Army did not yet recognize or define the operational level of war as a distinct activity designed to link tactical actions with strategic effects. Eventually practitioners would learn that operations tended to revolve around the linkage between long distance movements, fighting numerous battles, and the logistical support needed to sustain both activities. Since the U.S. Army had little practical experience sequencing these types of events during World War One, it seems reasonable that post-war doctrine did not cover the subject in any detail.

FM 100-15 stated that the object of war was to “impose the will of one country upon another. The accomplishment of this objective normally requires the decisive defeat or destruction of the hostile armed forces” while never addressing how corps and armies might go about that task.⁴⁴ U.S. doctrine advised that campaign plans designed to eliminate the enemy

⁴³ Ibid, 6-7.

⁴⁴ Ibid, 12.

military needed to concentrate friendly forces in a decisive direction ready to exploit success or deal with surprise and setbacks. Picking concrete objectives was the hard part, and a critical task for the commander. The range of air power made this even harder; with great range came a multiplication of possible objectives. But whatever the commander decided to do, he had to do it decisively, massing against each objective sequentially to ensure the mission's success.

Objectives were generally of two kinds: one set placed the enemy at a positional disadvantage, particularly by threatening his lines of communication, and another set took a deeper, long-range approach aimed at industry, raw materials, and the effective functioning of the enemy nation through its economic and political organs.⁴⁵ Air superiority was critical and was a prerequisite to effective ground maneuver; early moves in the ground campaign should avoid enemy strength and rather “advance towards some locality containing the essentials of his national life and thus force the enemy to move to its defense....”⁴⁶ This was good advice and demonstrated a level of sophistication when it came to higher-level tactical warfare and how to achieve operational objectives.

But at least two things were missing or problematic in this guidance about planning a campaign. First, the commander maneuvered to destroy the enemy in tactical battle – not to destroy its ability to regenerate itself. It is telling that as late as the summer of 1942 U.S. doctrine still had not integrated the reality of the large industrial state's almost limitless ability to regenerate personnel and equipment. Some leaders in the Allied camp began to realize that panzer divisions and fighter groups were just manifestations of the heads of a hydra; effective campaign plans would try to avoid attritional combat while destroying the enemy's ability to

⁴⁵ Ibid, 12.

⁴⁶ Ibid, 13. Practical experience would demonstrate this was effective in an air campaign as well. The best way to destroy the fighter arm of the Luftwaffe was to force them to defend industrial targets in the homeland round the clock for weeks on end.

regenerate combat power. Also missing from this chapter was any mention of the limitations that time, terrain, and logistics impose upon the commander's freedom of action. Some objectives existed only to extend the operational reach of friendly forces, but they could be as important as, or even more important than, an objective that dislocates an enemy army.⁴⁷

Modern U.S. doctrine suggests that the size and reach of friendly forces bounds the number of objectives that can be simultaneously pursued. This informs how frequently, both in time and distance, the command should schedule an operational pause in order to avoid culmination.⁴⁸

Without these parameters, the theater-level staff would struggle to construct a framework necessary to build a realistic campaign plan. An experienced leader might find the guidance on campaign planning in the FSR sufficient, but it would not give much insight to a younger officer who had no relevant operational experience.

Two other chapters of the manual would have been helpful to the newly assigned operational-level staff officer, but also contained noticeable gaps. The chapter titled "Strategic Maneuver" included offensive and defensive ways to defeat an enemy force, but it held nothing about how to project and sustain large forces across great distances. Examples of the various forms of offensive warfare were provided, but objectives were always directly linked to destroying enemy ground formations. The authors offered no insights or suggestions about what to do with freedom of movement beyond falling on the enemy's flank or rear. *FM 100-15* did not present an evaluation of the role that ports, airfields, rail and road nexus points, and avenues through imposing terrain played in presenting and blocking options for both armies. Tactical

⁴⁷ The port of Cherbourg in the Overlord plan is a perfect example. Cherbourg was important because it would allow the Allies to sustain another ten to twenty divisions on the continent. Some leaders at SHAEF recognized Antwerp as a second critical objective that would extend Allied operational reach over the Rhine.

⁴⁸ *FM 3-0: Operations* (Washington, D.C: Department of the Army, 2008), 6-6 to 6-19. Also see the 2017 version of *FM 3-0*, chapter one.

battles seemed divorced from the logistical underpinnings necessary to continue to fight them, and the manual did not address how to exploit the short-term advantages a victory might provide. The American vision of land warfare lacked any appreciation for the role and value of movement while not in contact with enemy forces, and how that movement might present new opportunities, to include the possibility of avoiding attritional warfare.

FM 100-15 had little to offer on operations at the army and army group level. Evidently the army group staff should try to plan further into the future and not try to control current operations. According to the manual, the army group staff should have concerned itself with administration and logistics to the least extent possible; the principal logistics requirement of the army group was to collect and prioritize requirements and then to provide them to the theater commander. By keeping a reserve, the army group commander retained the ability to influence the campaign at decisive points, either by countering major enemy actions, reinforcing local success, or taking a bold initiative. It could be argued that the U.S. Army had little to say about army groups because it had so little practical experience; when *FM 100-15* was updated in 1942 the U.S. Army was still almost two years away from forming its first operational army group. The counter to this argument would be the numerous recent historical examples provided by the campaigns in Poland, France, and Russia between 1939 and 1942. It is fair to say that the struggle that occurred from the autumn of 1943 to the winter of 1944 to figure out the relationships among the First U.S. Army Group and ETOUSA, the COMZ, and the Allied combined headquarters would have been immensely simplified if the authors of *FM 100-15* had been able to include a bit more substantive material.

The last chapter of great interest at the theater or joint level was the one devoted to air operations. It was so surprisingly balanced a treatment of air power that one may wonder if the

senior leaders of the Army Air Force completely agreed with what it said. The chapter remained consistent with the emphasis on air superiority seen throughout the entire document and suggested that bombardment aircraft employed against existing enemy aircraft, and the factories that produced them, was the best method to achieve it.⁴⁹ The best way to defend against enemy air power was to destroy its means to regenerate. But air power also provided air defense and close air support, and a tactical air force (unit) could not afford to specialize in one mission set at the expense of the other two.⁵⁰ The manual was perfectly clear about who owned operational control of air power assigned to a theater – the theater commander.⁴⁷ Transport aviation was mentioned as a powerful tool, both to deliver paratroopers and gliders behind the enemy, and to move critical supplies to the front. The second section of the chapter tackled “air operations beyond the sphere of action of surface forces” and introduced subtle discontinuities with earlier entries in the air chapter and with *FM 100-15* at large. These striking-force missions would be directed by the commander of field forces or the theater commander and would consider enemy industrial capacity as a complex system. Careful study might reveal vulnerable points in the oil, power, or aircraft industry at various nodes – production, distribution, and storage.⁵¹ The senior commander selected the sector on which to focus and air experts picked the individual targets. It was best if the sector selected was both vital and vulnerable, or necessary to his war effort, but also quickly degraded by air attack.⁵² Regardless, analysis, attack, and assessment “may extend over a considerable period of time” and would necessitate a deliberate process to repeatedly gauge progress. These five short paragraphs demonstrated a solid appreciation of the difference between tactics and operational art among air power thinkers in the U.S. Army.

⁴⁹ Ibid, 77-78.

⁵⁰ Ibid, 75, 76.

⁵¹ Ibid, 78.

⁵² Ibid, 79.

Luckily there was a second set of doctrinal references available to the enterprising staff officer that might help with warfare on the operational end of the spectrum. British officers serving in a senior Allied headquarters would have been familiar with *Field Service Regulations Volume 3, Operations – Higher Formations*. The British military published an updated version of the manual in January 1942; senior field-grade and flag officers were more likely to have seen the 1935 version. It was a short document that shared many of the weaknesses of the American *FM 100-15*, but it also pointed out some helpful nuances of warfare in the modern industrial age. Like its U.S. counterpart, *Higher Formations* emphasized that warfare was a joint endeavor, but it also emphasized the primacy of policy over military preferences while pointing out that military action reinforced by economic, financial, and diplomatic actions tended to produce the best results.⁵³ It went one step further in pointing out that in the British experience naval power tended to be decisive and that the Army would quite possibly play a supporting role to both the Navy and the Air Force. The Army might spend most of the war seizing or securing bases to allow the Navy and Air Force to strike and defeat the enemy.⁵⁴ The British Army had learned its lesson from World War One: warfare was bigger than purely military subjects; senior leaders needed to inform civilian debate and to understand and influence industrial production and the utilization of the limited reserves of manpower. The manual then pointed out that practical experience of war in the first half of the twentieth century suggested a couple of other conclusions. Modern armies were mass armies, composed of conscripted citizens who learned, thought, and felt differently about military life than did their long-service professional officers and NCOs. Commanders were reminded to lead them appropriately. British doctrine advised

⁵³The War Office, *Field Service Regulations Vol 3, Operations – Higher Formations* (London: His Majesty's Stationery Office, 1942), 2-3, 8-9.

⁵⁴ *Ibid*, 3.

military leaders to maintain an open mind and develop a broad set of interests, especially when it came to technical developments that might influence warfare.⁵⁵ Like its American counterpart, British doctrine acknowledged the fused nature of air and ground operations and the importance of assigning missions but leaving the details of planning and control to subordinate commanders. It seems as if personal knowledge of and practical experience in managing the Empire were so widespread that *Higher Formations* took for granted the audience's familiarity with mechanisms for coordinating the three services at the theater level and for synchronizing policy and military action.

This manual offered what seems to be a self-evident statement, but upon reflection provided a brilliant framing mechanism for officers to use when thinking about warfare, and one that may have explained the different approaches to managing theater-level campaigns between the two allies. It helped the British officer concentrate on the ancillary tasks necessary to make decisive battle a possibility, a subject ignored by U.S. operational doctrine. An overseas expedition would be the normal role of a British force in war, and therefore warfare was about mobilization, movement to ports, mounting ships, and then conducting either an opposed landing or administrative debarkation.⁵⁶ Operating away from the industrial base of Great Britain, armies had to establish and secure overseas bases and lines of communication before trying to maneuver against the enemy. The details associated with establishing and running a base and lines of communication were contained in *Manual of Movement (War)*, but at least the task and a word on where to learn more were mentioned in *Higher Formations*. The fact that British doctrine spelled this sequence out while U.S. doctrine ignored it is striking. This framework

⁵⁵ Ibid, 8-9.

⁵⁶ Ibid, 12.

required that British military leaders pay as much attention to deploying and sustaining the army overseas as to engaging in the fight itself. Giving equal billing to getting the Army to the fight, typically after a very long voyage at sea, seems perfectly logical considering the history of the British Army since the wars of Louis XIV. But the U.S. Army (and Marine Corps) had similar historical experiences, balancing ground campaigns in North America with expeditions to Mexico, Cuba, Central America, the Philippines, and France in 1917. Based on the challenges the U.S. Army faced in mounting Torch, explicit references in doctrine might have helped to ensure that some organization was focused on figuring out the details associated with mounting and sustaining an overseas campaign before a crisis developed.

Higher Command included a short chapter on how to go about preparing for a new campaign but this portion of the manual contained even fewer helpful insights than did its U.S. counterpart. Both countries agreed that information on the environment and on one's enemy was the critical prerequisite to building a campaign plan. Again, because it would be an overseas expedition "the difficulty of this task and likelihood of success will be largely dependent upon preliminary arrangements and on the selection and preparation of a base or bases and lines of communication."⁵⁷ British doctrine did not dwell upon the issue, but preparing a campaign was different from conducting a battle. The campaign included all the steps necessary to establish a military force close to the enemy, including a robust and well-defended base that could fuel and sustain extensive maneuver and battle. It might be necessary to fight in the air and on the sea just to reach the enemy, and then to fight in all three domains to get ashore. Drawing attention to the need to fight your way into the theater was powerful because it put movement, logistics, and joint integration on a par with the ground campaign. *FSR Vol. 3* gave no better advice for the

⁵⁷ Ibid, 11.

ground campaign itself than did *FM 100-15*. Commanders maneuvered to put the enemy into an unfavorable position prior to initiating battle, forcing the enemy to fight on poor terrain or outnumbered; battle destroyed enemy formations and broke their will to resist. By implication, the enemy would react to threats to their own line of supply, line of retreat, or other critical points, but the manual leaves it to the reader to imagine what these points might be. Finally, the manual ignored the recuperative power of industrial armies and offered no means of pushing the enemy back and wearing down his strength beyond positional warfare. Absent was any sort of overview of what could be learned from the joint and land-centric combat of the first eighteen months of World War Two in Europe and Africa and the implications for commanders and their staff at the highest levels. British doctrine presented a more complete picture of everything that fell to the military to plan and execute, but it offered nothing about how to select and sequence a set of objectives.

Higher Organizations clearly described the responsibilities of the theater-level staff and their relationship with both the combat armies and the organizations running the communications zone. It offered useful context for an experienced commander wrestling with building a campaign plan, but it lacked the detail that less experienced leaders would probably find useful. It was too tactical and too narrowly focused on enemy forces. It ignored the fact that some worthwhile objectives might have nothing to do with enemy forces. Finally, the manual painted too harmonious a picture of interaction between the ground community and the air power enthusiasts. By June 1944 the officers in SHAEF would have moved well beyond the generalities offered by either manual; *Higher Formations* was probably the less relevant of the two manuals aimed at senior-level commanders and their staffs.

FM 100-5 Operations was probably the most widely read manual among the U.S. professional officer corps, but it was also the least relevant to the challenges of serving at the theater and joint level. The manual was a core element of the professional education provided at Leavenworth, and it introduced majors to an environment beyond the single service or branch that had dominated the first phase of their careers. Covering combined arms operations at the regiment, division, and corps levels, *100-5* was the first document that might have integrated and sequenced close combat with all of the preliminary and supporting activities necessary to get to that point and then succeed. But the manual completely ignored the interplay between logistics and maneuver, referring readers to *FM 100-10* for guidance on support of forces in the field.

FM 100-5 got an overdue update in 1939, but this edition was savaged by the field, and BG McNair used the resources available at Fort Leavenworth and the Command and General Staff College to produce the May 1941 version.⁵⁸ It was a large volume of some 281 pages, focused largely at the division level and below. A disclaimer at the front advised that *100-5* was one of a three-part set that must be studied as a whole; administrative aspects of operations were covered by *FM 100-10 FSR Administration*. The first portion of the manual was helpful because it explained the division of missions and tasks among the various branches and services; the average field artillery major probably had no idea of the exact division of tasks required to maintain and run a military railroad, but *FM 100-5* captured the current line of thought.⁵⁹ The document missed an opportunity to present a more comprehensive vision of operations in the

⁵⁸ See Chapter Three of Walter E. Kretchik, *U.S. Army Doctrine: From the American Revolution to the War on Terror* (Lawrence: University Press of Kansas, 2011) for the story of FM 100-5's evolution between the two world wars.

⁵⁹ War Department, *FM 100-5 Field Service Regulations Operations* (Washington, D.C.: U.S. Government Printing Office, 1941), 15. There was overlap and confusion within the manual, and with practice in the field. Who exactly was responsible for what in getting a rail line up and running would haunt the U.S. Army from North Africa to France.

section covering troop movement by rail and air (the 1944 update would add movement by sea). But the focus was on administrative organization and control of march elements and not on what was necessary to synchronize ground elements arriving in a theater using various means of transportation and then to move forward into an attack. Here was a missed opportunity to talk about the lulls between action and inaction and why those lulls occurred. This would have been the perfect place to mention how to keep a regiment or division effective through a grueling campaign and to how shortages of material might affect the tactical options available. But it was presented as if long-distance movement occurred in a vacuum, isolated from combat, and as if the tactical commander enjoyed almost limitless possibilities constrained only by the terrain and the enemy. The idea that supply shortages might slow or stop a movement, preclude effective air and artillery support, or preclude the participation of some elements of the friendly ground force was inconceivable to the U.S. Army on the eve of its entry in the war. Here the first seeds of ignoring the criticality of logistics were planted.

The heart of *FM 100-5* was devoted to the offense, the defense, retrograde movements, and special operations. If there was any doubt as to the goal of operations, the manual made crystal clear that offensive action decided the outcome of campaigns, and the purpose of attacks was to destroy enemy military formations. Objectives, generally given as easily identified terrain features, existed to compel the enemy to fight, preferably at a disadvantage.⁶⁰ *100-5* repeated *100-15* in advising the commander to “concentrate in a direction where success will insure the attainment of the objective” and to use only the minimal force necessary elsewhere.⁶¹ Only at the end of the discussion about attacks against an organized position does the manual

⁶⁰ Ibid, 97.

⁶¹ Ibid, 97.

introduce the concept that battles might last days or even weeks, and that the planning staff must consider how to sustain offensive operations in the face of enemy reinforcements, friendly casualties and supply shortages, and the limits of human endurance.

FM 100-5 was republished in June 1944 with minor additions and changes, adding about forty pages to the length. Nothing fundamental changed, suggesting the Army considered the earlier version of 100-5 essentially sound and saw little value in a more significant overhaul of the document. The new version added a chapter devoted to air power, and commentary on sea movement and amphibious operations was added. Airborne operations were covered in greater detail, and a short chapter was added to address non-divisional armor and tank destroyer units and considerations for their employment. Other additions showed that the Army was learning from its combat experience. First, combat formations lost effectiveness over time as they suffered casualties and supply shortages, and this created the need for tactical pauses during which replacements and supplies would be integrated and formations retrained.⁶² Missing was any specific guidance on how to avoid or minimize supply shortages, but just the warning that combat leaders must consider the implications of a less than perfect logistical situation was a dramatic improvement. Second, it was made clear that it would be dangerous to issue combat orders that contained too much detail or tried to project guidance too far into the future.⁶³ Just as with the rest of the manual, it was left up to the imagination of the reader what might be a good rule of thumb to follow at the regimental, division, and corps levels. Nervous young commanders and staff officers were always left with the question “but how exactly am I to do this” as they read the manual. Examples were short on details: how long you could expect an

⁶² War Department, *FM 100-5 Field Service Regulations Operations* (Washington, D.C.: U.S. Government Printing Office, 1944), 38.

⁶³ *Ibid*, 39-41.

engagement to last, what attack frontages a unit might occupy under different conditions, what depth one might defend or expect the enemy to defend, and how the ranges of specific weapon systems played into these factors. *FM 100-5* made you consider the right things, but without practical experience you had no idea which methods worked best to solve the challenges you would face in combat. Sadly, training at the tactical level did not add much clarity because it was too hard to replicate and assess the effects of various weapons. *FM 100-5* was probably the most widely read official publication among combat leaders in the U.S. Army, but it was largely irrelevant above the division level and failed to address fundamental aspects of operations. It clearly reinforced the U.S. tendency to focus on tactics, close combat, the offensive, and enemy formations rather than on presenting operations as a wider range of interconnected activities.

FM 100-10, In its Many Versions⁶⁴

The two fields – operations and administration – into which military activity is divided are obviously interlocking. They are separated in Field Service Regulations only for convenience of discussion. It is the function of command to unite the strategical or tactical plan and the administrative plan into a harmonious whole.... A study of operations of large units in former wars shows that frequently failures initially attributed to faulty strategical or tactical plans were in reality caused by administrative deficiencies.⁶⁵

Command at the division, army, and theater levels included the responsibility to merge tactical and administrative realities into a harmonious whole.⁶⁶ But how? Officers and non-commissioned officers from the line branches had almost no practical experience with higher-level logistics and personnel management. Technical services and branches with one foot in

⁶⁴ Upon its entry into the war, the U.S. Army used a version first published in December 1940. Minor changes were added on 1 April 42 and 2 June 42. A new version was published in November 1943.

⁶⁵ War Department, *FM 100-10 Field Service Regulations Administration* (Washington, D.C.: U.S. Government Printing Office, 1943), iii.

⁶⁶ Based upon the doctrine within *FM 100-10*, *FM 100-5*, and *FM 100-15*. Corps were only responsible for collecting and forwarding the administrative reports from attached separate battalions, regiments, groups, and divisions. The army group was too new and untested a concept for U.S. doctrine to address yet.

each camp, like the engineers, had very little practical operational experience in the field, at least until 1943. Both communities could only hope that written doctrine, supplemented by the personal experience of their instructors, might offer helpful suggestions on how to approach similar situations once out in the field. Capstone sustainment doctrine was supposed to offer a bridge between the practical experience and limitations of the two communities. If doctrine and education offered no useful starting point and provided no practical tools to assess the components and relative merit of various potential actions one hoped would solve a problem, then it was not achieving its primary purpose. Unfortunately for the U.S. Army, it is extremely difficult to write good military doctrine, and even harder to maintain its relevance over long stretches dominated by garrison activities while technology and weapons continued to evolve. *FM 100-10* was limited in value because of all of these limitations, and thus it offered very little of practical value for senior staff officers in North Africa and Europe.

FM 100-10 had been revised repeatedly during the 1940s; the December 1940 edition was amended three times before a new version was published in November 1943. There was much continuity between the 1940 and 1943 versions – perhaps too much. Other than reorganizing the table of contents and adding about thirty-five pages, the 1943 edition offered little based on the practical experience gained during two years of operations in the Pacific and Mediterranean. The U.S. Army had collected and shared a staggering amount of written material on what was working and failing in the various theaters during the first two years of the war. This body of work included explanations of the organizational structure and the duties and responsibilities of U.S. and British high-level service and joint-combined commands, an acknowledged weakness of the pre-war professional education system. Summaries of lessons learned, reports from external observation teams, and newly written standing operating

procedures (SOPs) all pointed to areas where these high-level organizations had initially struggled and outlined the procedures that they had developed that seemed to work under field conditions. None of this material, or even the suggestion that important questions on organization and process still gripped the U.S. Army, made it into the new version of the manual. U.S. military leaders were locked in a battle over organization, control of logistical planning, and the proper ratio between combat and sustainment forces when *FM 100-10* was published in November 1943. Definitive guidance captured in an official War Department document, even if it did not represent the best current practice, would have been useful in reestablishing the institutional baseline and bringing new officers up to date on the prevailing thoughts among the Army leadership. Instead, the new *FM 100-10* read as if two years of operations in the Mediterranean and Pacific offered no insights about theater organization or strategic and operational logistics. The arguments over the best way to man and employ NATOUSA and ETOUSA remained compartmentalized among a few dozen senior officers in Washington and Europe.

The lack of meaningful change in or additions to *FM 100-10* between 1940 and 1943 is all the more striking because there was contemporary evidence that the U.S. Army knew there were important gaps in doctrine and professional education for staff officers. In early 1943 MG Lee pressed Eisenhower to authorize a course for combined logistics planners to be held in London to address the gaps in knowledge and performance that had been identified during the lead up to Torch. MG Karl Truesdale, the commandant of the Command and General Staff College, had dispatched COL Henry to visit ETOUSA and AFHQ in November 1942 in order to

assess how well Leavenworth was preparing staff officers for service overseas.⁶⁷ The inspection revealed that special staff officers did not know how to do their jobs, especially those serving in senior-level commands.

Leavenworth had already added an eight-week course back in summer 1942 that was aimed specifically at service officers selected for duty with base section, SOS, and joint-combined headquarters. COL Henry's inspection tour, as well as the written observations from other service and ASF investigative teams, helped refine the curriculum. This SOS Staff Course graduated 200-300 students per cycle, for a total of 1,621 officers over the course of the war.⁶⁸ It was better than ignoring the problem, but insufficient to make much of a dent in the shortfall of trained staff officers. Another avenue that would have helped officers who could not attend the course would have been a new doctrinal reference designed to address the problems COL Henry discovered at the end of 1942. This material might also have been included in the November 1943 version of *FM 100-10*, but, for whatever reason, the U. S. Army did not attempt to leverage doctrine to help with this issue.

In both editions of *FM 100-10*, about a third of the text addressed theater-level organization and control as well as which means of transportation were primary. The authors of the manual understood what should be addressed; they just struggled to offer practical options to address the different problems faced in the Pacific, North Africa, and the Mediterranean. The theater commander was recognized as the indispensable link between Washington and the field. The War Department established priorities, first among various Lend-Lease recipients, and then within the various elements of the U.S. Army. The ASF managed production and distribution

⁶⁷ SOS C&S Notes, 1 Nov 43. RG 498, UD 578, Box 3882, ADM 455. Truesdale did not mention the full name of COL Henry.

⁶⁸ Schifferle, 159-160. The course ran from the summer of 1942 to the spring of 1944.

out of the zone of the interior, while the SOS or COMZ moved supplies from various theater ports to the army or army group rear area. Finally, combat forces employed the material to destroy the enemy. The theater staff oversaw the actions of three principal subordinate elements -- the "army commander, the air force commander, and the communications zone commander" -- excluding the "theater air force and...troops held in theater reserve."⁶⁹ In a large, mature theater the commander usually divided his operating space into a combat zone and a communications zone. The combat zone was further divided to create an army service area, sort of a COMZ within the army (or army group) combat area. Doctrine remained vague on where exactly to draw this imaginary line between combat and support units, but it did acknowledge that continuing to make this decision as the theater grew was a vital task for the theater commander. The manual stated that the theater headquarters should be located near the boundary between the combat and communications zone.

⁶⁹ Ibid, 13.

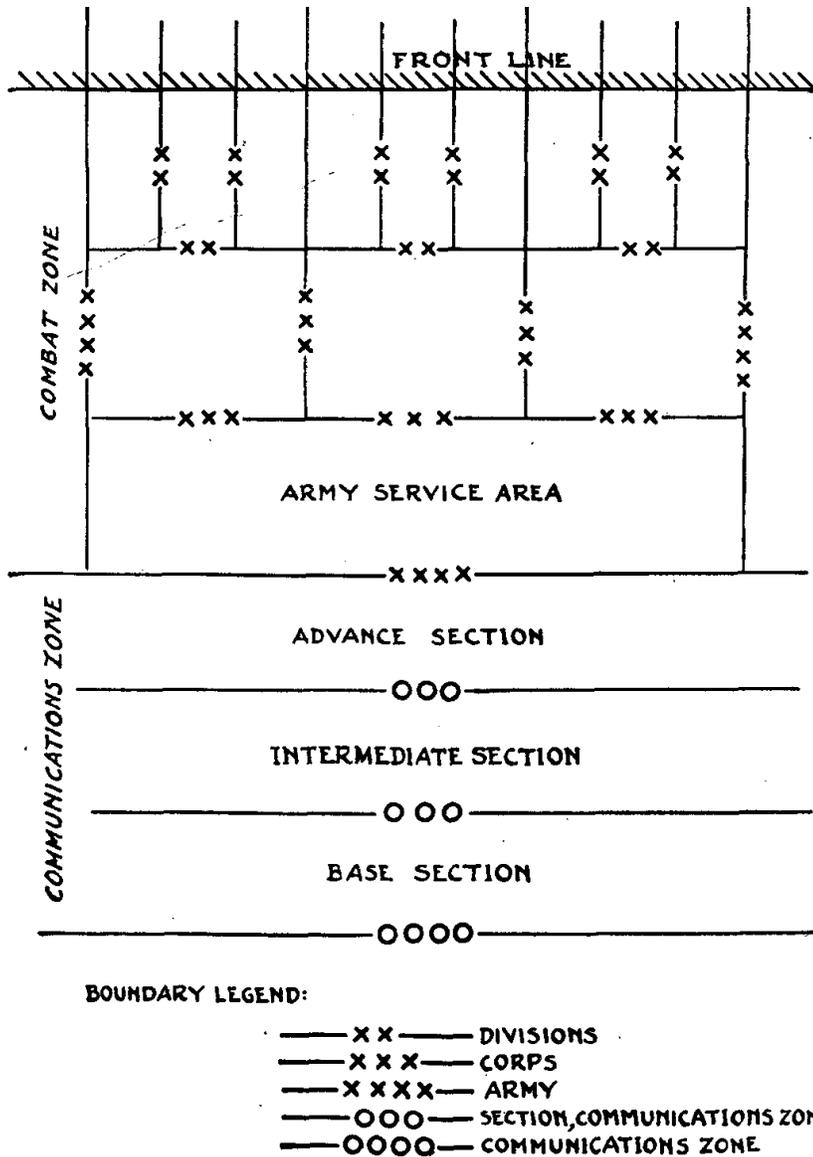


Figure 1.1: Notional organization of a theater of operation from FM 100-10

Next, *100-10* tackled the idea of a chief of each technical service. This was a confusing concept for most laymen, and it was foreign to most combat arms officers who had grown up working at the division level and below. There were eight services: chemical warfare, ordnance, transportation corps, quartermaster, finance, medical, inspector general, and judge advocate. There were also arms and branches that had service functions, to include the army air forces, corps of engineers, signal corps, corps of military police, the armored force, and tank-destroyer

force.⁷⁰ Further complicating matters, the power and authority of these entities evolved as the war progressed. Service chiefs in the U.S. Army had significant bureaucratic and fiscal authority during peacetime. When chiefs of service were assigned to operational commands, their presence almost guaranteed a battle for control over their technical area of expertise with coordinating, or general, staff officers (the G1 through G6) and subordinate commanders. Each theater commander would have a chief of transportation, a chief of quartermasters, and so forth, each with a specific charge:

The principal duty of a chief of service is planning...provid[ing] information and technical advice to the commander and to his general and special staffs, keeping them constantly informed as to the condition, capabilities, and requirements of his services. He develops the commander's decision into plans for his service and drafts the necessary orders for approval and issue by the theater commander. His advance planning includes estimates of the requirements in supplies, equipment, personnel, and establishment to meet further needs. He formulates and recommends...a general plan of operation for his service. He exercises general technical supervision over his service as a whole.⁷¹

Theater service chiefs had a direct line back to the chief of service in the United States, and the Army Service Force command that supervised them, so that he could develop "new, improved, or special types of supplies and equipment to meet the particular requirements of the theater of operations."⁷²

It was a system that might produce synergy and solve problems faster than the traditional command and staff structure would allow, but it could also spread confusion and competing priorities throughout the theater. *FM 100-10* explicitly acknowledged that

⁷⁰ Perhaps the most fundamental requirement of a service, and what made it different from a branch, was the responsibility for managing the supplies and equipment assigned to that organization. Any attempt to delineate exactly how arms, services, and branches were different from one another is impossible based upon the exceptions to the rules, and the changing nature of these sub-elements of the War Department over time.

⁷¹ *Ibid*, 13-14.

⁷² *Ibid*, 14.

the chief of service would have to travel throughout the theater to do his job and could task field units to provide technical reports. It empowered these chiefs to direct training, establish administrative procedures, and supervise matters of general routine, and to engage in periodic correspondence with and conduct frequent conferences with higher and lower units. The doctrine did make clear that command authority to establish policy and issue orders remained with the commander and his coordinating staff; but adequately supervising a dozen service chiefs was a difficult task. The tendency would be either to rubber stamp products developed by the technical staff sections or else to review and coordinate their work properly, thus bringing the pace of staff integration to a crawl. Important technical sections often had a high-ranking officer in charge, and their staffs might very well outnumber the assigned strength of the G4 staff of the controlling headquarters. In North Africa in the early summer of 1943, both the engineer and military railroad sections under AFHQ were supervised by brigadier generals, and the U.S. engineer staff outnumbered the U.S. element of the G4 staff by half a dozen soldiers.⁷³ The U.S. and British G4s were confronted with the challenge of supervising subordinates with equal or perhaps superior operational experience and a more robust (and focused) staff, and yet doctrine offered no advice on how to manage this situation.

A section titled “Fundamental Considerations” addressed administrative planning and the provision of supply within a typical theater command and control structure. Supplies flowed to the front lines based upon two demand signals. First, there was an automatic push of consumables based upon approved planning figures; this flow was based on the strength of the unit and the general nature of operations it was conducting.

⁷³ NATOUSA Commander Unclassified Decimal File, RG 492, NARA II.

Food, fuel, ammunition, and replacement equipment were directed towards the army dumps based upon these daily average consumption rates. The push system was supplemented by a more focused pull system, which was driven by explicit requests from the forward combat echelon, typically triggered by heavy casualties, heavy consumption rates, or special requirements generated by a unique mission.⁷⁴ If the supply service could not meet all demands made by forward elements, commanders determined priorities and established ceilings for items that were short across the entire theater.

Table 1.1 shows this system in a bit more detail.

| Class of Supply | Field Army's POC | Authorization Based On: |
|---------------------------------|---|--|
| I (Food) | Regulating Officer | Push Based on Headcount |
| II (Equipment) | COMZ | Pull (Lost or Damaged) |
| III (POL) | Regulating Officer | Push Based on # of Vehicles |
| IV (Building Material) | Theater HQ | Pull (Need) |
| V (Ammunition) Restricted IV | Regulating Officer based on theater issued credits | Controlled Supply Rate, "unit of fire" by ammo/gun type |

Table 1.1: The U.S. Army supply system in WW II

Resupply in the field was a bit more complex than the system described above because some supplies were used, maintained, requisitioned, and provided by the branch or service that tended to be the major customer. Vehicle repair parts were requested and provided by ordnance -- the units most likely to install them. Engineers handled most of the class IV and class V items related to emplacing and removing obstacles, such as mine fields, barbed wire, or road craters. Signal units stocked telephone wire, radios, and telephone and telegraph equipment. There was doctrinal guidance, and there were

⁷⁴ Such as the requirement to conduct an amphibious landing, cross a major river, or link up with airborne troops.

established norms. But there were discrepancies between various theaters and commands within that theater. Staying on top of exactly what supplies were needed, available, and in motion became much harder because so many agencies were involved.

This system functioned upon an assumption that combat units needed to travel light, living almost hand-to-mouth, confident that the supply agencies would deliver what was needed every day or so. Armies maintained reserve depots with a few days' worth of stock, and these depots were topped off periodically by army-level transportation units that would travel back to the closest railhead, forward depot, or base section in the COMZ. Doctrine explained that in a pinch the COMZ commander could push supplies all the way forward to army or even division depots and dumps, but in general this was not standard practice. If a unit needed something and that requirement was validated by the chain of command, the item was released from the closest depot. If the item was not on hand, the requesting unit was given a credit (promise) for future supply once the item arrived in the area. These credits could be called upon in the immediate future against any supporting depot all the way back to a base section, which triggered a delivery process managed by the COMZ. Credits were most often issued to control the expenditure of ammunition.

The second unifying concept centered on responsibility for administrative planning. The obvious starting point was the theater campaign plan, which announced objectives and the general line of action to be taken to accomplish them.⁷⁵ This would be followed by an administrative estimate produced jointly by the G1 and G4 to examine replacements, morale, prisoners of war, civil affairs, supply, evacuation, and

⁷⁵ Ibid, 26.

transportation; it consolidated the efforts of all the services working in the theater. The administrative plan flowed from the estimate and included “a statement as to whether the desired line of action can be supported and, if not, what deficiencies will exist and how, if at all, they may be remedied.”⁷⁶ The last step was for the commander to consider all of the estimates provided by his staff and subordinate commands and then make a decision. Doctrine captured the U.S. consensus that the commander might disregard warnings presented by the administrative staff, that he might find additional resources to improve the logistical situation, or that he might change the scheme of maneuver to make resupply easier. Although not explicitly stated, there was an inherent assumption that the operational staff would confer with the administrative staff and produce options that were logistically feasible. This assumption was valid only if the G4 was informed and supported by the various service chiefs and subordinate administrative commands. The G4 could advise the G3 on what was sustainable only if he had a clear understanding of what was available in theater, the means to employ that material, and good historical data on how quickly modern military forces burned through supplies. Based on the complexity of the administrative system and lack of operational experience within the U.S. Army in early 1943, these were dangerous assumptions.

The physical division of the theater into sub-elements was another attempt to clarify duties and responsibilities within the administrative sphere. There were generally two approaches: establish a rear boundary to the combat zone and stand up a communications zone and associated command behind it, or else empower a service of supply (SOS) organization working in the rear of the combat zone. In either case, a large

⁷⁶ Ibid, 27.

and well-resourced staff would control the forces assigned to manage and transport supplies, repair broken equipment, move replacements forward and wounded soldiers back, establish rest and training camps, and oversee the repair and use of rail, ports, airfields, and warehouses, and assist with supporting friendly local government or the forces imposing martial law in occupied hostile territory.

One shortcoming of this concept was the absence of a sourcing pool for these various service commands. Where exactly was the U.S. Army to find the core elements for these base sections, service of supply headquarters, depot managers, and traffic control and coordination nodes needed across the communications zone? This had not been a significant issue in World War One because the Americans needed to establish only one line of communication, and many of the technical details were handled by the French. But by November 1943 these personnel requirements had exploded across four theaters with numerous sub-theaters and overseas garrisons. Much like the table of organization and sourcing pool for AFHQ or SHAEF, manning the base sections, SOS, and COMZ in North Africa was a pickup game. It would have been helpful if updated doctrine had mentioned the general methods used to address these problems during the first portion of the war, and the advantages and disadvantages of each solution.⁷⁷

⁷⁷ Base sections seemed to be the easiest problem to solve because unit templates existed for the component parts. There was a standard package of service troops necessary to repair and run a port with its surrounding skirt of depots, and all of the companies, battalions, and regiments to perform these tasks already existed. All that was necessary was to appoint a commander, typically a colonel or brigadier general, equipped with a small staff cobbled together from the War Department, zone of the interior, representatives from the port operating units, and perhaps the theater headquarters. SOS and COMZ was a tougher challenge, and this lack of manpower led to most of the examples of dual-hatting that caused so much confusion about the chain of authority. It was inevitable that when a new SOS or COMZ was formed, the personnel would have to come from base sections or the theater staff. Because backfills of the right rank and experience were not available, these officers ended up working at two levels at the same time.

The SOS or COMZ commander traditionally established a number of subdivisions to empower initiative and clarify responsibilities. The most common was the base section; however, *FM 100-10* did not explain the purpose and mission of such an organization. The base section was a command assigned a geographic area containing a linked system of ports, depots, and transportation infrastructure. The command was designed to supervise and direct the reception and storage of bulk items arriving from the zone of the interior (the U.S. or U.K.) and then to push that material forward to combat units when directed. It might also contain the means to extract raw materials or manufacture finished goods. Base sections were likely to start off as advanced sections; as the theater deepened and matured, the COMZ might eventually have base, intermediate, and advanced sections. The differences among them and the advantages and disadvantages of standing them up were left to the reader's imagination.

Eventually each COMZ, at the lowest level, consisted of dozens or even hundreds of depots, which were structured as branch facilities for one type of unit or as general facilities for two or more types of units.⁷⁸ If a depot was in the intermediate zone, it answered to the intermediate zone commander, simultaneously keeping its chief of service informed and following his procedural guidance. General depots were trickier because they demanded the reconciliation of various methods of running a warehouse, all without the advantages of a preexisting staff or habitual relationships among the constituent units assigned to that depot. In a perfect world, all depots, regardless of

⁷⁸ For example, a branch depot might be an ordnance depot with ammunition and spare parts, while a general depot contained spare parts (ordnance), clothing (quartermaster), signal equipment, and obstacle material (engineers). A branch or service depot would be manned and run by its associated personnel. A general depot created the need to form a new command organization that merged the various branches and services present at that location, although the heart would be provided by the quartermaster service.

service or battlefield location, would follow the same general reporting and operating guidelines. Since this would require perfect coordination between the geographic chain of command (sections within the COMZ) and the functional chain of command (by service and branch), it was highly unlikely to be the case. As we will see, the challenge to maintain uniform procedures and to enforce discipline among a dozen service chiefs running depots sprinkled throughout numerous geographic commands hindered effective logistical support to the Army in Great Britain and France. The very structure of the system almost guaranteed breakdowns under field conditions.

The static supply system centered around depots managed by base, intermediate, or advanced sections, but the transportation system and responsibility of tracking material once it was on the move belonged to the regulating stations. This was a tried-and-true system with precedent back to the American Civil War and the Wars of German Unification.⁷⁹ Regulating stations were both physical locations on the ground as well as command and control nodes with important duties and responsibilities. According to *FM 100-10*, the purpose of a regulating station was “to maintain regularity and smooth movement of supplies and replacements to the combat zone and evacuation of casualties, prisoners, and salvage from the combat zone. It prevents congestion and permits maneuver of supplies and troops in rear of the combat forces.”⁸⁰ Regulating stations were primarily concerned with rail traffic, but they might also supervise motorized, maritime, and aerial lines of transportation. Regulating stations were placed at the boundaries between field army rear areas and the COMZ, where lines of communication

⁷⁹ Major Raymond G. Moses, “The Organization and Operation of Military Railways” (Fort Leavenworth, KS: Command and General Staff School, 1931), 1-2.

⁸⁰ FM 100-10, 39.

intersected and tended to be within the geographical footprint of the COMZ advanced section, if one was activated. *FM 100-10* advised that under ideal conditions each army would have an aligned regulating station. Each regulating station received large trains or convoys, confirmed the contents, broke them down into smaller elements if necessary, and then forwarded them to drop-off points established by the field army they supported. Regulating stations performed the same function for traffic headed out of the combat zone, and they needed adequate facilities, repair parts, and mechanics to keep trains and trucks moving. So far so good.

The harder mission was to stay abreast of the changing supply demands of combat units. Trains and trucks dispatched from the COMZ might take anywhere from a day to a week to reach the rear of the field army; meanwhile priorities had probably changed. It was up to the regulating officer to track the tactical situation and react to new guidance from theater, the COMZ, or army staffs, and he was equipped with a staff to do so, to include Military Railway Service personnel and liaison officers from each service section. It was understood that the regulating officer would pull apart trains or trucks and reroute supplies to new locations if the changing tactical situation warranted. To whom exactly the regulating officer would listen if a conflict of guidance arose was not addressed; but, due to the physical presence of representatives from all the services and communications links with as many as four echelons of the COMZ and army or army group staffs, this conflict was sure to develop. The chaos was compounded when convoys arrived with no manifests of cargo, or with incorrect ones, or with fuzzy instructions on who should receive the supplies. The regulating station did not have the storage space or the personnel to sort through crates and boxes figuring out exactly what

each truck or car was carrying – the driving imperative was to push supplies towards the combat zone and what was hoped to be the most pertinent depot. Regulating stations were created to manage rail traffic, but by 1943 senior leaders in the ASF realized that roads would become more and more important to theater-level resupply, and *FM 100-10* acknowledged that additional stations might be necessary at major road choke points as well.

The manual acknowledged the criticality of transportation at the theater level by dedicating an entire chapter to the subject, addressing rail, motor, inland waterways, and aerial means of moving large quantities of supplies. At the risk of being redundant or further confusing chains of authority and responsibility, another method for subdividing each transportation network was introduced. But by presenting a consolidated view of how various means of transportation might mesh into a theater-level distribution system, this chapter helped clarify concepts presented earlier in the manual and hinted at areas of overlap likely to emerge in practice. All rail transportation in a theater was the responsibility of the chief of transportation (the theater-level service chief of the transportation corps), sometimes called the director of railways, who was likely to appoint a subordinate as the general manager of the Military Railway Service. *FM 100-10* stated that “[d]irect control is decentralized to the commander of the communications zone.”⁸¹ This rail network was then to be broken down into a number of divisions charged with running operations and maintaining the infrastructure, all answering to the general manager and not to regional base section commanders. It was likely that the rail service would also have ordnance units assigned to repair rolling stock and engines and

⁸¹ *Ibid*, 49.

construction engineer units to fix and add to existing rail lines, support facilities, and bridges. It was also reasonable to conclude that signal units would be available to emplace, maintain, and operate radios and wire-based networks. This rail system was laid out in beautiful detail and simplicity; the problem was that the manual did not address how rail management meshed with all the other potential chains of supervision and oversight. In a similar way, lines of communication on land and water were described. Each method of transportation demanded its own structure for control, reporting, repair, and stockage of essential materials, plus an array of companies and battalions to maintain and operate the system.

The relationship between the chief of transportation and the director of the Military Rail Service was not addressed. Some guidance on the division of responsibility between the two -- as well as their relationship with any regulating stations, base or advanced section commanders, and the COMZ and theater-level coordinating staff officers -- would have been helpful and might have prevented some of the friction in North Africa and France that was to follow. A certain level of complexity and overlap was to be expected; there was no clear-cut way to run three or four major transportation systems, supervise millions of service troops, and deliver tens of thousands of tons of supplies daily while reacting to the changing realities of tactical developments and weather. The system was going to be messy from time to time, and too many people might be trying to fix one problem while another remained unaddressed. *FM 100-10* did not stay abreast of recent operational experience. Viable solutions, recurring problems, and the War Department's preferred approaches remained confined to a small circle. Learning occurred by word of mouth, and organizations and individuals not in the loop

stumbled across the same problems repeatedly, triggering the slow development of working procedures through trial and error. Finally, arguments over organization and process persisted long past the point when they might have been addressed in time to produce a different result. Effective doctrine could have pointed out the priorities, organizations, and relationships preferred by the War Department so that units in active theaters could get on with making the system work rather than debating the basics.

Sustaining millions of men across hundreds of miles was obviously easier if a robust distribution infrastructure already existed and was preserved from battle damage as much as possible. Warehouses, rail and motor repair facilities, coal mines, fuel stores, bridges, rail lines, and rolling stock were all mentioned specifically as key assets for logisticians to find, repair, and use. U.S. thoughts about theater sustainment had not kept pace with the level of destruction that friendly bombers might inflict upon this infrastructure, and there was no written guidance about the pros and cons of targeting it in the first place. After reading the first third of *FM 100-10*, a staff officer would understand the complexity associated with distributing tens of thousands of tons of supplies on a daily basis but would probably not be prepared to present a compelling argument as to why parts of the enemy's infrastructure should be preserved for future use even at the risk of letting the enemy continue to use them.

The Manual of Movement, 1933

The *Manual of Movement* is an odd document to have emerged from the British military, an organization not known for prescriptive, high-level direction on how to operate. It was almost twice the length of FSR Volume III, very thorough in its descriptions, and generally adhered to by Gale and other senior logisticians in the British Army. The manual described how to

accomplish the specific tasks associated with large-scale transportation and deployment in great detail, going into specifics by stage, to include the interaction required among various agencies and the transfer of cargo among different means of transport. The manual is something of a cook book, aimed primarily at the novice, offering techniques, methods, and illustrative examples. Motor transport was acknowledged as a new and critical addition to the transportation arsenal, but the potential that aerial resupply might eventually provide a similar advantage was not mentioned. The manual benefited from the deeply engrained understanding among the British of the relationship in any expeditionary campaign between logistics and operational possibilities, stating on page one that "...the size of the force which can be employed and the scope of the operations will depend on the existing and potential capacity of the lines of communication."⁸² If there was any confusion about the relationship between logistics and maneuver, the introduction clearly stated that "...the capacity of a movement system is often a limiting factor in the conduct of operations. Limited capacity, in fact, stands out as a marked characteristic of military movement agencies in war, and consequently the utilization to the best advantage of such resources as may be available is of the highest importance."⁸³ Movement was a long and complex cycle that progressed from mobilization, movement to British ports, a sea voyage to the theater, movement to the front, and then the flow of replacements and supplies to maintain that combat power once in contact with the enemy. After establishing this framework in the introductory chapter of the book, the manual was then organized to cover each step in detail.

What followed next was what was arguably the most valuable chapter of the book -- the presentation of four interrelated and interacting principles that ideally governed each stage of the

⁸² *Manual of Movement (War)* (London: His Majesty's Stationery Office, 1933), 1.

⁸³ *Ibid*, 3.

expeditionary movement cycle. These were not overly simplistic catch-phrases, but the distillation of hard-won wisdom that provided a framework used to organize all the subsequent chapters. The first principle was centralization of control; one well informed and adequately connected headquarters had to direct the entire transportation machine. Only the theater or national GHQ had the information required to see the big picture – military and civilian – and therefore control was a military function. “It is therefore impractical to delegate to subordinate commanders control of those parts of a connected system which lie in their areas.”⁸⁴ Delegation worked well for combat units, but would not work in the realm of transportation. Because the overall plan of campaign was likely to change often, so too would the output capacity of the various carrying agencies. The sooner the logisticians knew about these changes the better, but security concerns would restrict access to this information, again calling for military control over the system. It was critical that no matter how honorable their intentions, local authorities and troops must not interfere with the operation of this system.⁸⁵ In order to manage this system, the GHQ had to understand the carrying capacity of the entire transportation network in detail, and the executive agent for the commander was his deputy quartermaster general.⁸⁶

The second principle, which was directly linked to the first, was the regulation of dispatches, or an operational extension of the idea of centralized control.⁸⁷ This principle spelled out the fact that all decisions to load, haul, and unload cargo would be centrally managed; the

⁸⁴ Manual of Movement, 19.

⁸⁵ Ibid, 19.

⁸⁶ The intellectual linkage between the British model for controlling the transportation network within a theater and modern thoughts about how to best manage airpower is a direct one. It is acknowledged that as long as two-way information is guaranteed it is the most efficient way to manage scarce but critical assets. The U.S. Army did not approach a similar consensus over centralizing control over all means of transportation in one directorate of one supreme theater command until early 1945 at SHAEF assisted by Ross’ transportation section, which was notionally subordinated to ETOUSA and LTG Lee.

⁸⁷ Ibid, 20.

DQMG managed the prioritization of supply items paired with their means of transportation, and also had responsibility for confirming that the system was prepared to respond before beginning a movement. This translated to ensuring that all three points (loading, transit and transfer nodes, unloading) associated with any movement were prepared to execute their duty, reducing surprises and delays. If done correctly, this avoided congestion at any choke point. Choke points were dangerous because of how quickly they created snags along the entire distribution chain, and were to be avoided or discovered and fixed as quickly as possible. The British had learned to adjust the volume of demand to match capacity, rejecting the natural tendency of allowing combat organizations to list their demands and then trying to find ways to provide them. Directly linked to this task was the requirement to establish and enforce priorities for the movement of material by each means of transportation available. There would never be enough equipment to carry everything units wanted, making it doubly important to move the essentials first.

This idea suggested the third principle, the even flow of material across the intertwined chains of the network. A theater line of communications was a series of nodes and links, each with its own individual handling capacity. Limiting factors at one location or within one system could not be magically overcome, and efforts to try to shove more material through the system than it could handle was actually counter-productive. The goal was to maintain even and continuous movement in both directions while retaining a bit of flexibility for priority traffic as local emergencies arose. This theme was emphasized repeatedly throughout following chapters – every distribution node and network had fixed constraints, and ignoring them tended to make things worse, not better. The British system believed that the solution was to figure out the

constraints of the logistics system and work backwards from there – the size of the combat force and pace of projected operations was dictated by theater logistics.⁸⁸

The last principle was the importance of full utilization of carrying power.

Transportation assets sitting idle along the route were wasted resources; quick turnaround was essential, and would logically flow from adherence to the first three principles. Full loading was a second sub-set of the last principle, and past experience had taught the British Army that bulk and not weight was most often the limiting factor.⁸⁹ It was also more efficient to practice movement over full distances, meaning long legs that avoided the need to handle the same cargo multiple times over a short period were best when possible. Perhaps the most difficult guiding concept to achieve was the need to try to maintain uniform speed of movement in an aggregate sense. Predictability in the volume of traffic at each node and along each link provided advantages to everyone involved. This was easiest with rail traffic, and manageable with air resupply when the weather cooperated, but trucks presented the most difficult case. The British hoped to avoid a situation where nothing arrived at a node for a matter of days, only to see a massive amount of material surge along the system and overwhelm a distribution point in a short time window.

After describing the conceptual framework and four principles governing transportation, the *Manual of Movement* included an overview of the best way to organize for the mission. A theater movement control team was formed from two main organizations: the movement section from within the GHQ DQMG directorate, and the transportation element of the War Office

⁸⁸ Gale had to teach this lesson to Eisenhower and his subordinate commanders in January 1943.

⁸⁹ The British and Americans would eventually prioritize commodity loading over full loading, but only after their overall transportation crisis had eased after the opening of Antwerp.

assigned to that theater.⁹⁰ Experience had taught the British Army to insist upon rigid control by the GHQ over all movements from ports to the end of the rail line (called the railhead in their doctrine), but flexibility and decentralization were encouraged in managing distribution forward of the railheads.⁹¹ The War Office understood that in order for this conceptual structure to work, the theater DQMG had to control the two key subordinate functions – movement control and what they called maintenance, or the purposeful evaluation and prioritization of supply needs at the front. Q Maintenance extracted and prioritized the supply shortages needed at the front, confirmed where those supplies were stockpiled, and then turned to Q Movement for the allocation and management of the various type of transportation required. Q Movement also directly supervised any transportation troops (manning trains, trucks, and coastal or barge shipping) that transited more than one base command's area. The movement control organization was also the executive agent for implementing the theater prioritization process, and the manual elaborated that “they must explain the constraints to the other services and arrange for adjustments in demands.”⁹²

The manual went on to note that this system was predicated on reliable long-distance communication, standardized and disciplined reporting by combat and service units, and the ability to monitor and keep a program of long duration on track.⁹³ The term “program” carried a very specific meaning in the British military, describing a long-term and gradual process designed to accomplish some major task. Staff sections had to monitor progress carefully using

⁹⁰ *Manual of Movement*, 25-26. This was similar to the U.S. concept where the transportation special staff section would work closely with the theater (ETOUSA or NATOUSA) coordinating staff, primarily the G4. This logical arrangement was complicated when Ross and his OCOT was placed under Lee and the SOS chain of command in May 1942.

⁹¹ *Ibid*, 27.

⁹² *Ibid*, 28.

⁹³ *Ibid*, 40-41.

statistics, and recognize and take corrective measures should the program fall off-schedule. The overall logistics plan, which consisted of a number of programs, unit lists, and projected operating locations, was to be published in two documents. The overall concept of support was called the maintenance project, and the allocation of physical locations and facilities to the force was referred to as a key plan; both documents were revised periodically, and British officers often referred to a second, third, and even fourth key plan as changes and the operating area expanded.⁹⁴ The manual wrapped up the chapter on overall organization and operation by stating that “As a general rule...nothing is sent up from the base to a force operating in the field unless it is first demanded from the front.”⁹⁵ The exception was ammunition, which would be pushed forward based on historical consumption figures. Because the push and pull demand signals would compete for the same transportation capacity, the *Manual of Movement* offered the suggestion that a command should conduct a “daily trains conference” at GHQ to work out the delivery plan.⁹⁶

As will be demonstrated in subsequent chapters, the senior logisticians of the British Army knew and tried to adhere to the principles and concepts threaded throughout the *Manual of Movement*. When confronted by a sticky problem with operational-level logistics, Gale usually linked its solution back to some violated principle contained in this volume. The administrative officers at 1st Army and 18th and 21st Army Groups shared the same perspective. Senior British officers knew this doctrine, believed in the advantages conferred by following it, and attempted to teach younger, less experienced officers how to implement that guidance in the field. Gale

⁹⁴ Manual of Movement, 59.

⁹⁵ Ibid, 90.

⁹⁶ Ibid, 92. This is precisely what AFHQ initiated in mid-December 1942, although it was expanded to include all modes of transportation and not just trains.

was surprised and disappointed by the lack of a similar unifying vision, or at least adherence to one, within the U.S. Army in North Africa and France.

What other source documents existed in the 1940s that might have helped senior staff members better anticipate the challenges they would face in combat, particularly how to organize the highest-level staffs and integrate the differing priorities between the maneuver and logistics communities? Did other manuals exist to help unify disparate communities within the U.S. Army and help them communicate with their British counterparts? *FM 101-5 Staff Officers' Field Manual: The Staff and Combat Orders* was something of the Leavenworth bible for succeeding as part of a general staff.⁹⁷ Every graduate of CGSC would have been familiar with it, and many copies would have been floating around headquarters. The purpose of the document was to establish the scope of duties for each special and general staff section during planning and execution.⁹⁸ It also provided a template for orders and estimates by mission type and staff section. This was a very helpful reference work for anyone working at the division-level or above for the first time, but it also tended to reinforce the idea that military operations consisted of combat at the corps level and below and that everything else was either not very important or else easy enough to figure out without much help. The second volume was a similar desk reference: *FM 101-10 Staff Officers' Field Manual: Organization, Technical and Logistics Data*.⁹⁹ The book served three main purposes: to break down the personnel and

⁹⁷ The U.S. Army used the version published in 1940 for the duration of the war.

⁹⁸ The general staff refers to the G1 through G4 and is also sometimes called the coordinating staff. The special staff includes personal assistants to the commander (like the chaplain and inspector general) and service and branch chiefs and their assistants. In theory each service and branch could provide a senior representative at the theater headquarters, but the traditional branches typically did not.

⁹⁹ This was a massive book of 358 pages; the most recent version was published in June 1941, six months before official U.S. involvement in the war. Services and branches published supplements periodically throughout the war to update the data on U.S. unit composition. All of these supplements would inevitably be a little out of date, but accurate enough for planning.

equipment composition of every unit in the U.S. Army; to provide technical data on a vast range of topics, including weapons, equipment, field engineer projects, and truck and rail carrying capacity; and to provide uniform planning factors to determine what it took to sustain various units in different types of combat. It was not a manual you sat down to read from start to finish. Rather, you carried it in order to search out just about any fact needed in planning military operations. But there were problems. For example, the tables designed to estimate friendly casualties and to project the daily consumption of various supplies were based on data from France in 1917 and 1918 and proved to be extremely inaccurate for World War II combat. A new version of the manual was not published until December 1944. There would be near universal criticism of the G4 estimates used to prioritize the supplies sent to France during the first three months of Operation Overlord, estimates pulled from FM 101-10 supplemented by information shared by NATOUSA or based on the personal experience of officers that served in both theaters. ASF leadership understood the problem but found it extremely difficult to extract data at the requisite level of detail from the combat theaters to update these tables.

Doctrine tends to get a bad reputation. Published guidance tends to be criticized after the fact for one of two related mistakes. The first sin is that of going into too much detail at the risk of being over-prescriptive, limiting free thinking and inviting dogma to displace critical analysis. Or doctrine is judged to be too vague, offering little of practical value to both experienced and inexperienced combatants confronting new circumstances. The hardest bit to get right is how the combination of new technologies and weapons will be grouped into new formations and original methods of employment, and how the different approaches taken by participating nations will play out on the battlefield. Allied doctrine during World War II is susceptible to two criticisms. First, the hard lessons learned from operations and combat during the Great War and during the

first half of World War Two were not adequately captured in the wave of updates to U.S. doctrine published in 1943 and 1944. MG Littlejohn, the ETOUSA Quartermaster from 1942 to 1945, wrote while preparing his input for the USFET General Board:

We entered this campaign with very limited information, particularly in the logistical side from the last war. It was only by having access to certain personal files and particularly the personal files of General DeWitt and a few others that I was able to gather together some bits of information to guide me in the planning and to gauge the QM task in this war.¹⁰⁰

Second, the manuals offered very little in the way of practical and concrete method for organizing a theater, planning campaigns, and sustaining mass industrial warfare. If anything, U.S. doctrine introduced confusion by advocating a wide range of headquarters to supervise every conceivable function, without addressing how they would be resourced or how they would coordinate among one another. The second shortfall was less excusable because it depended less on the enemy, terrain and weather, and new technologies. It should have been relatively simple to explain how a theater staff interacted with their combat and communication zone counterparts to plan and control a campaign; but that was not the case, much to the detriment of operations in North Africa and France.

¹⁰⁰ Letter Littlejohn to Lee, 23 Aug 45. ETOUSA QM Records, RG 498, UD 1089, Box 5122, NARA II. Littlejohn was responding to the COMZ directive to submit topics for the USFET General Board process just getting started at this time. LTG John L. DeWitt was an infantry officer who had established a reputation as an experienced quartermaster in World War One and during the inter-war period. DeWitt served as the quartermaster for the 42nd ID and 1st Army in the Great War, and then served as the Quartermaster of the Army in 1930. He went on to serve as the assistant commandant at CGSC, commandant of the Army War College between 1937 and 1939, and commandant of the Army-Navy Staff College from 1943 to 1946. The combination of these three assignments afforded DeWitt the opportunity to influence a large portion of the mid-level logisticians in the U.S. military. DeWitt is more infamously known as the senior officer who recommended internment of Japanese Americans in 1942 and executed the executive order to put it into effect as the IX Corps Area Commander with jurisdiction over California, Oregon, and Washington.

Practical Operational Experience

Doctrine was not the only source of insight into contemporary expeditionary campaigns and effective organizational techniques for a U.S. staff officer in the 1940s. Moving beyond the strong institutional bias against trying to conduct amphibious operations resulting from their experiences during the Great War, the British military had expanded their appreciation for what contributed to successful ventures based upon three years of joint and combined operations by the summer of 1942. Although these insights were not integrated into capstone British doctrine, they did inform the organization and approach taken by their highest military headquarters, and they did help the AFHQ become effective much faster than if it had been an exclusively American enterprise. The experience gained by the Middle Eastern Command and Western Desert Force/8th Army from 1940 to 1942 was especially helpful and relevant. One item of concern was just how intimidating Allied leaders found the thought of conducting an opposed landing, which led them to spend a lot of energy on the initial landing and to leave little time to think about what came next. Although the U.S. Army amassed considerable first-hand experience in the Pacific and subsequently transferred battle-hardened commanders to the ETOUSA to lead corps in Normandy, these island operations did not offer many lessons beyond the tactical level for the Army participants. Also, the smaller scale of battles in the Pacific made it easy for the generals who had served in North Africa and Italy to dismiss the observations and recommendations of these transferred officers. It was a messy blend of all these experiences, combined with those of Torch, Husky, Avalanche, and Shingle, that created the Allied mindset about what would be necessary to ensure that Overlord succeeded.

Most senior Allied officers had some personal exposure to either preparing forces for World War One or fighting in France and the Mediterranean. If not veterans of the war itself,

most professional officers had read “lessons learned” and doctrine derived from the experience of the Entente in France, Italy, Greece, and the Middle East. Gallipoli and Salonika held a special importance for amphibious operations, and both campaigns were considered unfortunate failures.

As they had during the Great War, joint operations in the Mediterranean between 1942 and 1944 helped create a shared vision of contemporary warfare among the men who would lead Overlord. Combat in North Africa, Sicily, Salerno, and Anzio helped develop a new orthodoxy on how best to organize and employ an interservice and multinational force and on what one should anticipate when fighting the *Wehrmacht* when it was conducting an operational defense. The Germans developed a new reputation for reacting quickly, launching aggressive counterattacks, and conducting a tenacious and methodical defense, trading space for time only after every effort to repel the lodgment had failed. Torch also offered valuable insights into operational-level theater logistics, leading to better planning, more effective organization above the army level, and more robust allocation of service troops for Overlord. Senior leaders within the U.S. Army interpreted early difficulties during the North African campaign to justify their preference for layers of echeloned headquarters responsible for sustainment. By sticking with orthodoxy and rejecting the experiment being led by Gale at AFHQ, the U.S. Army chose not to explore the possibility that fewer headquarters might be both more efficient and more effective. It also distracted the ASF and War Department from what may have been the more significant issue, motorized transportation and its critical role when railroads were too damaged to carry much of the load.

The British learned from Gallipoli, Salonika, Iraq, and Palestine how to project ground forces to distant theaters and then sustain them in a harsh climate with limited infrastructure. For

every setback (Gallipoli and Salonika) there were success stories like the drive through Palestine and the second expedition to Baghdad. Amphibious expeditions were a key element in the British way of war; sometimes they were successful, and sometimes they were not. Early experience in World War II demonstrated that air superiority was almost essential in order to achieve success in amphibious operations. Dieppe demonstrated just how hard and costly landing directly into the teeth of a prepared defense could be. One take-away was that success required landing where the enemy was not. If this was not an option, the attacker would have to conduct the ultimate set-piece battle to overwhelm the opponent with firepower and mass. Early U.S. experience in the Pacific reinforced the lessons of Dieppe while eliminating the possibility of avoiding enemy strength – the islands were just too small. The key to success in the Pacific boiled down to synchronizing overwhelming firepower. Also, key to these efforts was the coordinating of strategic logistics – moving men and material over thousands of miles by ship – with tactical objectives and maneuver. Operational logistics, or shifting supplies hundreds of miles inland, was part of the British experience early in World War II, but not something the Americans needed to perfect in the Pacific. These were the two mental models that American and British planners brought with them to the early stages of planning for Torch, and the attitudes that would be modified, but not completely replaced, as a result of the experience in the Mediterranean.

All British officers who had served in the Army during World War Two were indirectly shaped by their experience at Gallipoli and, to lesser extent, Salonika. Twenty years after the fighting at Salonika and Gallipoli, it was probably difficult to tell the difference between bad strategy and poor execution, but what lingered was an inclination to avoid opposed-landing amphibious operations. Problems in Norway, France, and Greece in 1940 and 1941 did little to

convince the average British officer that trying to project land power ashore in the face of German resistance was a good idea, despite the fact that their doctrine and historical experience dictated that it would be the norm. Air power added a new dimension to the traditional challenge of coordinating sea and land forces, and, during the first half of the war, the Germans seemed to have the upper hand in the skies when and where it mattered most.

Lesser-known amphibious operations reinforced British appreciation of just how risky force projection across the ocean could be. British and Free French forces attempted Operation Menace in September 1940 to secure Dakar, Senegal from the Vichy garrison. The operation was disrupted by elements of the Vichy French fleet and by heavy artillery in the fortress at Dakar; the British and Free French abandoned the affair without even trying to get ashore.¹⁰¹ Operation Ironclad, conducted in April and May 1942 to seize Madagascar, went off much better, but against very light Vichy French resistance. The operation benefited from lessons learned from Operation Menace, better coordination by the Combined Headquarters command, and a much less resolute reaction from the enemy.¹⁰²

Any euphoria from the success on Madagascar was short-lived. The decision to stage a one-day raid at Dieppe along the Channel coast of France on 18 August 1942 was a curious one. By the time the raid was launched, the idea of launching Sledgehammer in 1942 was already off the table for everyone except General Marshall.¹⁰³ There has been lively debate ever since over why the British carried on with the operation, some speculating that Canadians were sacrificed to

¹⁰¹ Paul Kennedy, *Engineers of Victory: The Problem Solvers Who Turned the Tide in the Second World War* (New York: Random House, 2013), 227

¹⁰² *Ibid.*, 227. Air support provided by two fleet carriers was much more effective, the ground force was increased to a full division, and there was a dedicated non-combatant headquarters ship. French air and naval forces were significantly weaker than those encountered at Dakar.

¹⁰³ Sledgehammer was the codename for a small-scale Allied invasion of France in 1942. The decision to abandon Sledgehammer will be discussed below.

drive home to the Americans just how hard a cross-Channel attack was going to be.¹⁰⁴ If so, it was a complete success. The Royal Air Force lost 119 aircraft while shooting down only 46 German planes. One British destroyer and thirty-three landing craft were sunk. Also, of the 6,100 ground forces put ashore, 1,000 were killed, 2,300 captured, and another 1,000 never made it to the beach.¹⁰⁵ It was a wake-up call that Allied political and military leaders could not lightly brush off. Joint operations conducted off the southern coast of England crossed every functional and geographical boundary imaginable. Mountbatten's Combined Operations Command realized after the fact that there were a host of other organizations with whom they should have coordinated more closely. Joint cooperation broke down, and units struggled to find the right beach, unload their ships, and get past the initial belt of obstacles. It was a disaster that captured the attention of Allied planners working on the landings for Torch and an eventual return to France. It is easy to see why the United Kingdom was so cold on the idea of direct confrontation with the Germans along the Atlantic coast from 1942 to 1944. Their operational experience demonstrated that amphibious assault against the Germans and their allies was a tricky business that required overwhelming superiority and joint force integration that the British were only just beginning to figure out by the late summer of 1942.

Early U.S. Experiences in the Pacific

A comparable body of U.S. experience with long-distance force projection and amphibious assault in both Europe and the Pacific emerged throughout 1943. The first Army unit to see amphibious combat in the Pacific was the 7th ID, which fought on Attu in the

¹⁰⁴ Ibid, 231-232.

¹⁰⁵ Ibid, 233.

Aleutians from 11 to 29 May 1943. The division's initial landing was not contested by the Japanese, but the force did face fierce counterattacks once established ashore. The U.S. Marine Corps had already learned about amphibious operations at Guadalcanal from August to November 1942, but they were not joined by the Army in any significant numbers until December, after Torch had already begun. MG Joe Collins' experience in the Solomon Islands as the commander of the 25th Infantry Division began in January 1943, and in the campaign the Army tended to act as a supporting force for the Marines. The Army landed with the second wave at New Georgia in July and then, in mid-August, as the assault force on an undefended beach. Even by late summer 1943, the Army's experience in the Pacific still offered little on how to conduct an assault landing, but it had reinforced the lessons from North Africa on the critical importance of the follow-on buildup phase. During these operations to consolidate the toehold, U.S. Army leaders learned that the terrain and the climate could be a greater challenge than isolated enemy forces insufficiently supported by air and naval power.¹⁰⁶

In the second wave of U.S. amphibious assaults in the central Pacific over the winter of 1943-1944, the Army took on more of the burden of fighting their way ashore than they had taken on in the first wave. At the end of November 1943, the 2nd Marine Division and a regiment of the 27th Division captured Tarawa and Makin Islands. Marine casualties were heavy, with about 1,000 dead and 2,000 wounded, or a fifth of the division. The Army lost fewer men, but it still suffered a ten percent casualty rate among the regiment that had been committed to root out the small Japanese garrison, a task that required four days.¹⁰⁷ Lessons from Tarawa were taken to heart and applied during the landings on the Kwajalein group on 1

¹⁰⁶ Stephen R. Taaffe, *Marshall and his Generals: U.S. Army Commanders in World War II* (Lawrence, KS: University Press of Kansas, 2011), 37-44.

¹⁰⁷ *Ibid*, 151.

February 1944, but the Marines still suffered about five percent casualties and the 7th ID seven percent in only two days of fighting.¹⁰⁸ MG Charles Corlett, the commander of the 7th ID, caught senior Army leaders' attention with his idea of seizing nearby islands and emplacing supporting artillery on them before tackling Kwajalein proper.

This initiative resulted in Richardson, the senior Army leader in the central Pacific, nominating Corlett to form and lead a new corps headquarters, the XXIV. But Marshall overrode Richardson and transferred Corlett to Europe in March where Eisenhower made him the commander of XIX Corps. Marshall made it obvious that he valued Corlett's practical experience in planning and conducting amphibious operations and hoped the team at SHAEF could learn from him. Corlett's memoirs suggest that the British were game but that he received only a lukewarm reception from his fellow Americans.¹⁰⁹ He later wrote: "Not a single American General or staff officer in England – Bradley, Lee, Patton, Smith, Hodges or anyone else [--] ever mentioned my experience in the Pacific or asked my opinion on anything although our contact were frequent. Many times, I made suggestions about amphibious matters, but these ideas of mine were brushed off."¹¹⁰ The only exception within the U.S. camp was LTG Sandy Patch, the man slated to lead 7th Army ashore in southern France. Patch flew from Italy to Great Britain and spent two days with Corlett, going over the draft plan for the Dragoon landings.¹¹¹

Corlett was worried about a couple of aspects of planning for Overlord, but his memoirs implied that the Americans he talked to did not share his concerns. Based on his experience at Kwajalein, he thought that the Americans were landing with entirely too little ammunition to

¹⁰⁸ Ibid, 152.

¹⁰⁹ 21st Army Group invited Corlett to brief senior commanders and staff for about an hour to share his thoughts on training methods, amphibious techniques, and the overall strategy in the Kwajalein campaign.

¹¹⁰ Charles H. Corlett, "One Man's Story, Some of it about War," ms. autobiography, Corlett Papers, AHEC, 231-232. This was an early version of what would become Corlett's autobiography, which was published in 1974.

¹¹¹ Corlett, 232.

support combat operations during the first few days of Neptune and, too, that the Sherman tanks that had been modified to swim ashore (dual-drive or DD tanks) should have been supplemented with LCTs, amphibious tractors, and other specialized equipment like that embraced by the British.¹¹² After watching a rehearsal by VII Corps, Corlett recorded that "...these troops were six months or a year behind the Pacific in amphibious technique and apparently nobody knew it except perhaps one man. He was Admiral Kirk, the Naval Task Force Commander."¹¹³ In all fairness to Eisenhower's staff, it was impossible to make major changes to the plan in March, and Corlett was probably echoing concerns about resources that SHAEF had been fighting (with only limited success) for months. But his observations offer evidence that information sharing between various theaters was not as efficient as one might have hoped, at least within the Army.

Corlett wrote: "I soon got the feeling that American Generals in England considered anything that had happened in the Pacific was strictly Bush-League stuff, which didn't merit any consideration."¹¹⁴ It was logical that the veterans of Torch, Husky, and Avalanche felt a sense of superiority over their counterparts from the Pacific. Army operations in the Pacific conducted prior to Overlord tended to involve a regiment, division, or two divisions in an operation lasting anywhere from two days to two weeks. Early efforts in North Africa, Sicily, Naples, and Anzio had presented challenges on an entirely different scale of complexity, scope, and duration than the operations in the Pacific. Corlett, Collins, and others in the team that was transferred from the Pacific might have useful suggestions at the lowest tactical level, but the SHAEF team thought that they had the superior understanding of large and complex amphibious operations. Finally, while admittedly unfair, there was doubtlessly a bias among the European team towards

¹¹² Weigley, 46-47. Corlett, 235-236.

¹¹³ Corlett, 235.

¹¹⁴ Corlett, 232.

the martial capabilities of the Germans over the Japanese, especially when it came to mechanized combined-arms warfare.

Not all combat experience is equal, and ETOUSA could only benefit from the hard-won lessons of other theaters if they were willing to really listen. Corlett offered small-scale input very late in the Overlord planning process, but his observations showed how wide a gulf there was between ETOUSA and Southwest Pacific Area. The natural human tendency to dismiss the experiences of others ensured that lessons learned in the Pacific during the winter of 1943-1944 could not be fully exploited to better the provision of resources for the Overlord operation. By the time Corlett could share his observations and recommendations in person, it was too late to act on most of his suggestions.

Learning from 8th Army: Insights on Extended LoCs in Austere Conditions

Logistical planners in both armies had an excellent point of reference in British operations in the Middle East, especially the numerous campaigns conducted by the 8th Army. These experiences were even more relevant and accessible because of direct American involvement by the 9th Air Force and the U.S. Army Forces in the Middle East (USAFIME).¹¹⁵ The theater presented both aspects of the modern logistical challenge: strategic sustainment centered around shipping the right equipment to the theater on an appropriate timeline, and operational logistics predicated upon distribution over great distances with limited transportation options. But U.S. planners in the War Department, in ETOUSA, and at AFHQ were not familiar with much of what the British had learned, and they had no time to absorb the insights their

¹¹⁵ General Andrews took over as its second commander in November, and MG Crawford was the chief of its SOS. USAFIME was established in Cairo in August 1942.

counterparts had to offer. In Egypt the British had learned how to establish and sustain a base of operations dependent upon ship-delivered supplies while projecting a half-dozen divisions hundreds of miles from their rail- and road-heads relying on coastal shipping and a single rail line and a single paved road. If the time had existed to integrate these insights, the AFHQ and U.S. War Department would have developed a better deployment and sustainment plan for Torch.

The German advance to Alamein in early July 1942 forced the British Middle Eastern Command to modify and expand their base in the Nile Delta. LTG Sir Wilfrid Lindsell directed the effort to build new airstrips and amass supply dumps just to the west of Alexandria while integrating the retreating 8th Army, Desert Air Force, Commonwealth reinforcements, and elements of the U.S. Army Air Force.¹¹⁶ The crisis drove the command to establish its first crated-vehicle assembly plan in Egypt that summer, and one of Alexander's first priorities as the new theater commander in August was to strengthen his base in Egypt while equipping the 8th Army and Desert Air Force with the capability to go on the counteroffensive. In order to sustain the three corps and approximately eleven divisions in the growing 8th Army, the British built up a formidable support command.¹¹⁷ By September, HQ LoC, Middle Eastern Command controlled 36 3-ton General Transport (GT) companies, six tank transporter companies, nine water tank companies, and a bulk petrol transport company, totaling over 8,700 general service vehicles.¹¹⁸ To ease the initial transportation burden, the Middle Eastern Base command had also constructed water pipelines from Alexandria to the 8th Army camps around Alamein. There was a new

¹¹⁶ MG Ian S. Playfair, *British Fortunes Reach Their Lowest Ebb*, vol. III in *The Mediterranean and Middle East* (London: H.M. Stationery Office, 1960), 372-273. Playfair, *The Destruction of the Axis Forces in Africa*, vol. IV in *The Mediterranean and Middle East* (London: H.M. Stationery Office, 1966), 101.

¹¹⁷ The British referred to these organizations as the headquarters, line of communication (L of C or LoC), and the associated army, army group, or regional command.

¹¹⁸ Playfair, *The Destruction of the Axis Forces in Africa*, 17.

emphasis on vehicle repair as far forward as possible. To better coordinate the effort, the British Army formed a new Royal Electrical and Mechanical Engineer (REME) Corps to consolidate all repair units that had formally operated under the Ordnance Corps.

Montgomery and Alexander, assuming that the counteroffensive projected for the fall would be successful, took steps to ensure that the attack could be sustained to Tobruk, Benghazi, and then Tripoli. A new support organization was created to bridge the gap and handle some of the burden of administration and coordination between the 8th Army support command and the Middle East GHQ and Base Command under the direction of BG G. Surtees.¹¹⁹ Alexander made it very clear that Surtees answered to Montgomery; Surtees' job was to convey 8th Army's needs and priorities to the GHQ, and help repair and operate the line of communications as it expanded to the west, to include the maintenance and operation of rail, engines, rolling stock, and water supplies. The British also assigned pioneer units to Surtees' command to repair the coastal improved road and rail line, and prepared coastal shipping with building material, bulk supplies, and technical experts to restore the ports at Tobruk and Benghazi as quickly as possible. Rail movement would terminate at Tobruk where supplies would be shifted to coastal vessels and shipped to Benghazi.

As a result of these thorough preparations, Montgomery's pursuit through Benghazi and up to El Agheila went very well, at least from a logistics perspective.¹²⁰ For the last lunge to Tripoli, Montgomery decided he would have to augment the 52 GT companies now supporting 8th Army and its LoC command with all the transport he could generate by grounding the X Corps. This generated another fifteen GT companies that were attached to the support command

¹¹⁹ Ibid, 102-103.

¹²⁰ Ibid, 104-105.

for the first six weeks of 1943, allowing the 8th Army to reach Tripoli and continue to push Axis forces into southern Tunisia.¹²¹

AFHQ was well informed on all aspects of the British drive from El Alamein to southern Tunisia and had access to the daily reports, innovations employed to extend the reach of the 8th Army, and lessons distilled after the campaign. The AFHQ was aware of these extensive preparations prior to 8th Army's drive, Montgomery's progress from early November to mid-February, and received dozens of copies of a written after-action report prepared at the end of the advance into southern Tunisia. ETOUSA had access to all message traffic sent between USAFIME and the War Department during the operation. AFHQ worked at Norfolk House from July to November close to the senior British service and ministry headquarters, and it had excellent relations with service and joint planners involved in the U.K.'s global strategic efforts. All major commands sent courtesy copies of important documents, to include lessons summaries, to the War Ministry and equivalent theater, joint, and Army commands.¹²² Finally, 8th Army offered two lectures on recent lessons learned in a conference it hosted in Tripoli from 14 to 16 February 1943. This action was obviously too late to be of much help with the execution of Torch, but it did ensure that a written record of operational and administrative lessons reached the AFHQ staff. General Smith and LTG Gale directed each general and special staff section to send one officer to attend the conference and take notes.¹²³ Copies of BG Richardson's written

¹²¹ Ibid, 231-233. BG Sir Brian Richardson, "Administration of 8th Army," notes from a lecture delivered on 14 February 1943, CAO Files, AFHQ, RG 331, NARA II. The road distance from Benghazi to Tripoli was 675 miles. By late 1942 8th Army consisted of 200,000 men, 2,000 tanks, and tens of thousands of wheeled vehicles in approximately eleven divisions.

¹²² Based upon the distribution list for the 8th Army and 18th Army Group lessons documents from North Africa. CAO Files, AFHQ, RG 331, NARA II. The U.K. War Department then republished these documents as training pamphlets for the British Army. Copies were also provided to the U.S. War Department.

¹²³ "Administration of 8th Army", CAO Files, AFHQ, RG 331, NARA II. The three-page summary was published at AFHQ as a read-ahead before the conference, along with a cover letter signed by General Smith directing each staff section to send a representative to Tripoli.

summary were provided to all the staff sections in AFHQ, its subordinate units, and major commands in Great Britain and the United States.

Brigadier Richardson emphasized a few points that should have resonated with AFHQ, ETOUSA, and NATOUSA planners. First, in a long-distance mobile pursuit, it was essential to have an administrative command post that could break down into two functional halves to leap-frog behind the combat elements and provide continuous coordination with the base area and line of communications. Second, by this stage in the Desert War Montgomery and his operations staff had learned to consult with the administrative and support staff before developing maneuver concepts, hoping to ensure anything considered was logistically feasible first. Finally, 8th Army had realized that the advance to Tripoli and then the southern Tunisian border was possible only if X Corps halted at El Agheila and turned their trucks over to sustain the advance by the remaining two corps. This was a risk Montgomery was comfortable taking based on the weakened state of the Axis forces in Libya and the narrowness of navigable terrain along the coast, which made deep envelopment of his left or southern flank extremely problematic. The decision demonstrated great pragmatism, creativity, and a mastery of the interrelation between logistics, maneuver, and operational objectives.

Reading a written report or attending a lecture is helpful, but each has obvious limitations in generating an intellectual revolution within a busy headquarters. But in July 1943 ETOUSA and its SOS gained a valuable officer when MG Robert Crawford was assigned to the command. Crawford had been the SOS commander at USAFIME during Montgomery's drive across Libya, and he had first-hand experience with supporting air and ground units fighting at the end of a tenuous line of communications. He had witnessed British sustainment operations at the theater and army level, and synchronized U.S. service troops during the same campaign. When he

attended his first SOS command and staff meeting at Cheltenham on 5 July 1943, he was invited to share his observations about this combat experience.¹²⁴

During this hour-long lecture, Crawford emphasized the vast scope of the theater, how intertwined British and U.S. logistics had become, and the challenges of sustaining deep offensive operations using a meager distribution network. U.S. service units had advanced from Cairo to Tripoli, side by side with their British counterparts, during the campaign, creating communication and sustainment challenges equal to those faced by the combat formations. Crawford witnessed first-hand the damage inflicted at Tobruk and Benghazi by the Axis during their retreat, and he emphasized to his audience just how important truck companies were in sustaining a pursuit when ships and trains were of limited use. Crawford appreciated Montgomery's generalship, pointing out Montgomery's careful attention to logistics and refusal to take tactical risks until his line of communication was restored, or at least until reserve stocks were available to carry the command through the next phase of the advance. Montgomery tended to progress across Libya in pulses, lunging forward to capture a port or road and rail junction, then pausing until those facilities were repaired and receiving ships and trains before moving on to the next objective. Yes, this often allowed the enemy to slip away, but at no point was 8th Army exposed to a major reverse caused by insufficient supplies.

As demonstrated by the points he emphasized during this lecture and by his actions during his first few months in the SOS, Crawford understood what was required to sustain maneuver forces in combat. He brought a wealth of practical experience to the SOS, an appreciation of the pace and volume of work during combat operations, and a host of important British contacts. Lee positioned Crawford in London to improve the ties between the SOS and

¹²⁴ SOS C&S Notes, 5 Jul 43. RG 498, UD 578, Box 3882, ADM 455, NARA II.

ETOUSA, COSSAC, and SHAEF, and to assist with operational planning and preparation for Roundup. Crawford would contribute significantly to Allied readiness for Overlord, but as a member of the staff at COSSAC and then SHAEF and not as the deputy commander of the SOS. Before Crawford left the SOS, he could not fundamentally alter the focus of Lee's organization, nor could he assemble his own team that could adequately perform operational functions on the SOS's behalf. Despite his impressive qualifications, Crawford was incapable of passing along his operational competence to the senior general staff officers at Cheltenham.

Conclusion

There were important links between the U.S. Army's frustrations at the end of World War One, imprecise American doctrine that contributed to early struggles in World War Two, and Allied reaction to early operational experience with amphibious and expeditionary campaigns at the beginning of the war. It was these factors that created the initial and problematic U.S. approach to theater-level warfare and made meaningful evolution so hard a task. At the heart of the problem was unresolved conflict over the best way to properly organize, resource, and synchronize a communications zone working in tandem with a combat-centric headquarters. Since the U.S. Army had not perfected this task in the last 40 years, it was impossible for its doctrine to clearly explain the critical aspects of the problem, historical pitfalls of past solutions, and methods and techniques that would be useful in future situations. The number of officers with first-hand experience with theater level command and control, never large to begin with, quickly declined in the 20s and 30s as the U.S. Army shrank back to its peace-time establishment and the associated exodus of personnel. Whatever insight doctrine

could provide had to be presented in such a manner that it could be understood by an inexperienced staff officer serving at the theater level for the first time.

Inadvertently, a strong reaction to what the AEF considered micro-management by the Army Chief of Staff formalized the operational authority of that position and created an imbalance in authority between center and periphery at the beginning of the war. Finally, U.S. experience, doctrine, and mental models missed the transition of primacy from a national theater headquarters to a joint-combined operational entity such as AFHQ, COSSAC, or SHAEF. All three of these paradigms slowed the development of effective senior headquarters during the first two years of the war, a challenge only slightly eased by a different approach in the British Army and by its three additional years of combat experience. British capstone doctrine was short, written for senior and experienced officers, and of little use in accelerating the development of the U.S. Army. Familiarity with the far superior *Manual of Movement, War* was restricted to such a small group that it could not help bridge the gap. Historical examples of effective joint and combined theater headquarters were widespread, but, when it came to the synchronizing modern combat and logistics across continental distances, the British were only a few steps ahead.

This chapter has set the conditions necessary to explore the friction associated with Allied and American growth in their approach to organization, command and control, and integration of combat and sustainment tasks. It has provided a common language to describe components of those tasks, illustrated where doctrine and experience were helpful, and suggested shortfalls that would complicate the process. It has set conditions for the next chapter by providing a conceptual start point for shared Allied thinking about theater level warfare in the Mediterranean, and specifically the roles and relationships between the U.S. War Department, a

joint-combined operational headquarters, national service headquarters, and responsibility for synchronizing maneuver and sustainment.

Chapter 2 - Torch and the Mediterranean Theater

The pre-existing gaps in Western Allied experience and thought about how to plan, prepare for, and execute an expeditionary campaign discussed in the preceding chapter were on full display during Operation Torch. Allied efforts between August 1942 through February 1943 demonstrated that the British and Americans did not agree on the best way to organize a joint combined operational headquarters and did not know how to develop a campaign plan within the constraints imposed by maritime deployment and resupply. The expedition also illuminated how the U.S. Army was woefully unprepared to create and execute a logistics support plan at the operational level. Because the senior Americans in charge of Torch prioritized the number of fighting troops put ashore during the initial assault landing phase at the expense of all other considerations, there were not enough service units and transportation assets to support a multi-division drive into Tunisia during the first month of combat. Focusing on the initial landing of the three U.S. task forces, Eisenhower and Clark left the details of subsequent ground campaign to General Kenneth Anderson and his 1st British Army. Because of compromises to the original shipment plan, Anderson did not have enough trucks to sustain more than a composite division in the isolated terrain of central Tunisia, a force insufficient to overwhelm the rapidly reinforced Axis defenders. Caught off guard by the strength of Axis ground and air units committed to shielding Tunis and Bizerte, the Western Allies were forced to improvise a new campaign where bad roads, insufficient rail assets, and truck shortages did more to slow the accumulation of overwhelming combat power than German and Italian resistance.

In the face of a tough fight in forbidding terrain and with virtually no theater-level service units, General Humfrey Gale, the chief administrative officer for AFHQ, managed to piece together a coherent theater supply and distribution system by mid-December 1942. In the

process, Gale slowly taught Eisenhower and Bedell Smith how to manage logistics at the operational level, which hinged on the relationship between the carrying capacity of a line of communications, the weight of combat power that could be maintained in contact with the enemy, and the tempo of offensive operations they might sustain. Eisenhower slowly came to appreciate that the critical limiting factor on his joint campaign was the distribution system in North Africa. Until Gale had widened each bottleneck in the distribution chain, AFHQ could not mass its superior ground strength in Tunisia and punch through or wear down the Axis defenders. Setting up such a distribution system required a wide variety of service troops; trucks, trains, and coastal ships; a long-distance communications network; and effective staff procedures. Luckily for the U.S. Army the British entered the campaign with a working doctrinal framework, trained and experienced officers, and the right blend of technical skills within the line of communications command assigned to AFHQ. Gale and the British knew what they were doing, but did not have the volume of men and equipment they needed to match Axis air and ground strength in Tunisia. Furthermore, Gale had to teach the Americans to stop packing troops and planes into the forward combat area until the distribution system had demonstrated it could keep them resupplied, and to conduct the operation accordingly.

In the end Gale succeeded, both in establishing a robust theater requisition and distribution system, and in teaching his U.S. counter-parts how to run one of their own. He also helped teach his American counterparts at AFHQ how plan operations according to the limitations of that logistical infrastructure. This sort of learning happened in every major unit that participated in the campaign, to include AFHQ, the various tactical maneuver formations and their numbered army and air force commands, and NATOUSA, the U.S. Army's administrative and sustainment headquarters for the theater. But these lessons about the linkage

between long-distance distribution networks and the tempo and tactical objectives within a campaign were somewhat obscured by the tactical imperatives of the assault landings at Sicily, Salerno, and Anzio, and the organizational gulf between NATOUSA and ETOUSA. A surprising number of insights about how to set up and run a requisition and distribution system did not migrate from North Africa to Great Britain, and ETOUSA would repeat many of the mistakes made by AFHQ, 1st Army, and NATOUSA. This failure to learn illustrated how hard it is to profit from the insight of others without a direct infusion of leaders and units with firsthand experience, and the limitations of any lessons learned process, regardless its merits and shortfalls.

This chapter examines Torch in detail and then offers an overview of the salient lessons extracted from Sicily, Salerno, and Anzio. These operations radically transformed AFHQ and its key subordinate organizations between August 1942 and January 1944. Because ETOUSA, SOS, and COSSAC did not directly participate in the Mediterranean campaign, there was a risk of internal rifts developing between the two communities and their approach to managing a theater. In order to prevent this from happening, it would be imperative for the senior expeditionary commands in the U.K. to learn vicariously from AFHQ and NATOUSA. The chapter seeks to explain what exactly AFHQ, NATOUSA, and other subordinate formations learned about theater-level warfare in the Mediterranean and how well that information was shared with the U.S. and British military.

The chapter consists of three major sections: Allied preparation for Operation Torch, ground operations in North Africa, and a description of how the very different style of operations conducted on the Italian mainland conditioned Eisenhower and his senior advisors to think about amphibious campaigns. Because of the ferocity of the air-ground reaction of the Wehrmacht to

Torch, Husky, Avalanche, and Shingle, Eisenhower and his lieutenants overwhelmingly focused on the initial beach assault and the ensuing battle of the build-up. As a result, SHAEF was comfortable with a smaller supporting force than his logisticians argued was necessary and accepted the long-term complications that destruction of the French transportation network presented in order to isolate the Normandy area from German reinforcement. These were conditioned responses learned from dealing with German counterattacks in the Mediterranean. Just as AFHQ officers brought their operational experiences with them to SHAEF, there was no corresponding shift of leaders and experience between NATOUSA and ETOUSA. Cross-pollination happened, but not to the extent that the wholesale transfer of ground divisions, air wings, and flag officers in the combat arms triggered. The Allies had a wide range of ways to propagate lessons learned, but, in the end, they proved to be insufficient. Lee's headquarters was unprepared to manage theater logistics when it took over in France in August 1944.

Torch was the first major ground campaign planned and then executed by the U.S. Army in World War Two, and their inexperience was glaring. The need to create a combined operational headquarters, AFHQ, called into question the purpose of ETOUSA and triggered a battle over qualified staff personnel. The decision to form and land three quasi-independent joint task forces presented a second complication not addressed by existing U.S. doctrine or by pre-war planning. During the struggle to plan the invasion and to equip and deploy the U.S. force, it became apparent that American planners did not understand the links among the three tasks and lacked the systems and discipline to prepare a complex expedition that could transition into combat immediately upon arrival. It was only with significant help from the U.S. War Department and British joint planners that the expedition was successfully launched. The one bright spot of the initial plan was the flexibility and aggressiveness demonstrated by Anderson

and the British 1st Army. The British landed a balanced force capable of projecting a reinforced division into eastern Tunisia by mid-November that almost pulled off a win before the Axis could secure the last two deep water ports on the continent. The operational pause that followed was influenced by bad weather and a shortage of transportation, but it was mainly caused by unfavorable odds at the front. It took time for AFHQ to figure out how to run a joint team, a process complicated by the merger with 8th Army and the Desert Air Force in February. U.S. combat units were green, and some U.K. units little better. Perhaps the hardest task was to shift all the combat power available in North Africa into Tunisia without undermining the ability to sustain the forces massed there.

Positive developments were offset by opportunities missed. AFHQ initiated the campaign with a decidedly unorthodox approach to running theater logistics, at least when compared with the systems expounded by U.S doctrine. This unconventional approach did not survive the supposed transportation crisis of January and the massive overhaul of command and control completed in February. As a result, the Americans added two intermediate theater and administrative headquarters in the form of NATOUSA and its SOS, two organizations that suffered from having scopes of authority that were poorly defined if not outright redundant with one another and with the AFHQ administrative staff.

These developments exposed the challenges associated with the lessons-learned process in general. Validating and then implementing best procedures is a tricky proposition – official written lessons do not necessarily correlate with the personal conclusions reached by senior leaders. Not every acknowledged deficiency could be fixed with the time and resources available, while other shortcomings, or the exact reasons for their emergence, were completely missed. Lessons and priorities that had emerged at the end of Torch were called into question or

obscured by the difficulties experienced during opposed landings against Italy. Getting and staying ashore became such a pressing concern by the end of the Anzio operation that Eisenhower was willing to sacrifice any other considerations tied to future operations. The result was a willingness to shortchange service troops in order to bring in more combat elements during the initial stages and to obliterate French infrastructure to block German reinforcements. Immediate needs took precedence over what would come next.

Preparing for Torch

The U.S. War Department was forced to adapt a new sense of urgency in planning the counteroffensive against Germany when Churchill and Roosevelt agreed in late July 1942 that North Africa would be invaded before the end of the year. Suddenly both countries needed to accomplish a staggering number of difficult tasks in a matter of three to four months. Given the complexity of the operation, the inexperience of the U.S. Army, the lack of a formed combined operational headquarters, and the short amount of time available, it is remarkable that Operation Torch succeeded at all. The Americans failed to develop a comprehensive vision of the campaign, and therefore they deployed an unbalanced, combat-heavy force that lacked the ability to shift themselves east to meet Axis reinforcements. Restoring that balance proved to be extremely difficult. Combined with aggressive operations by Axis ground and air units, the need to establish a functional communications zone extended the duration of the campaign into May 1943. The fact that the Allies quickly established themselves ashore and almost won the race to the Tunisian ports in December was a testament to British operational and tactical professionalism. The early efforts of AFHQ provide a remarkable contrast not only with

SHAEF's ability to plan joint operations but also with those critical capabilities that evaded both organizations.

One of the main sources of friction in the resulting campaign in North Africa was how little time the United States Army had in which to plan its first major ground campaign. The U.S. was suddenly confronted with the need to execute a host of tasks with which it had no experience whatsoever, and it needed to do so about six months sooner than anticipated. Roundup, which would require the same organizations and tasks as Torch, had not been expected to happen before spring 1943. Beyond transforming the initial coordinating bodies in the United Kingdom into a full-fledged theater command, the Army also needed to create a combined and joint operational headquarters. It needed to turn a conceptual outline for operations in northwest Africa into detailed orders with assigned and ready forces, and this could happen only after Washington and London came to an agreement on exactly what Torch was to accomplish and on the level of risk both countries were comfortable accepting. Finally, the prospective theater commander needed to decide how he planned to defeat his German and Italian adversaries once established ashore and how to sustain this effort in a campaign likely to last months while spanning half of the northern coast of Africa. Since the U.S. had no practical experience with operations at this scale, it was bound to be less efficient than anyone hoped. The British would have to pick up much of the slack until U.S. leaders gained the experience, and fielded the organizations and units, necessary to carry their share of the burden.

When Eisenhower moved from the War Department in Washington D.C. to England in late June 1942, he went to assume command of ETOUSA and to accelerate preparations for Sledgehammer and Bolero. These two operations were designed to land Allied forces in France, either in an emergency to prop up a collapsing USSR or else as a deliberate assault in 1943.

Back in March, President Roosevelt and Prime Minister Churchill had agreed to indefinite postponement of Gymnast (an earlier plan for the Allied occupation of North Africa) due to a lack of resources and to recent setbacks in the Pacific and Middle East. By late May the British realized that by backing away from Gymnast they had opened the door to the U.S. Army's preferred operation, Sledgehammer/Roundup, well before the British thought either force would be ready. As a result, beginning at the end of May, the British mounted a campaign to pressure the Americans to turn elsewhere in 1942. As a preliminary step, Force 110 at the Combined Operations Command was redesignated as 1st Army in June, assigned control of 5th Corps containing 4th and 78th Infantry and 6th Armoured divisions, and directed to continue to refine their earlier work on Gymnast.¹ They would begin working with AFHQ in mid-August.

This series of engagements, messages, and planning papers culminated in a mid-July visit to London by Hopkins, Marshall, and King. By 22 July the Americans were forced to admit to the President that they had been unable to convince the British to give France a try in 1942. Directed by Roosevelt to conduct some major offensive to provide aid to the USSR and hurt Germany in 1942, Marshall and King conditionally agreed to support Gymnast. On 24 July Marshall shared with Eisenhower his interpretation of the deal struck with the British. If by 15 September the Russians did not seem to be on the edge of imminent collapse, the Allies would commit to an invasion of Northwest Africa, to be launched before December 1942.² The next day Marshall told Eisenhower that the operation would be called Torch and an Allied team would plan it there in London under the direction of the supreme allied commander. Marshall implied that Eisenhower would probably command the invasion, but this was not officially

¹ Compiled by LTC J.A.H. Carter and Major D.N. Kann, *Maintenance in the Field, Volume II: 1943-1945* (London: The War Office, 1961), 10.

² History of AFHQ, Part One, August to December 1942, 1. Published as a classified document on 1 August 1945. ETOUSA Historical Division, RG 331, NARA II.

endorsed by the Combined Chiefs of Staff until 14 August. President Roosevelt immediately approved the recommendation to launch Torch, as modified by Hopkins, not later than 30 October and to share with the Prime Minister that his orders were “full speed ahead.”³

Meanwhile, Eisenhower did what he could with the resources and authority available to him as the commander of ETOUSA to start work. On 2 August he told Marshall that he wanted to appoint MG Mark Clark as his deputy and assign him as the planning chief for Torch, a request Marshall approved on 11 August.⁴ A few weeks earlier (immediately after the mid-July meeting of the CCS in London) the British had reexamined the plan for Gymnast; the joint executive planning staff worked from 18 to 25 July to produce a new appreciation to serve as a starting point for coalition planning.⁵ Eisenhower pulled six planners, including BG Gruenther, from the ETOUSA staff and had them join their British counterparts at Norfolk House on St. James Square on 4 August. BG Gruenther would lead the twelve-man planning team until the arrival of MG Clark and then serve as his deputy with the London team when Clark was working in Washington, D.C.

This early planning activity brought together the nucleus of what would become the Allied Force Headquarters (AFHQ), although it was not officially established until 12 September 1942. Major General Gale held his first CAO coordination conference on 22 August, a meeting he would chair six days a week for the next five months. The list of attendees at this first meeting included the future AFHQ G1 and G3, COL Everett Hughes (listed as the deputy CAO,

³ Matloff and Snell, 282. This created an uncomfortable dilemma. The President and Prime Minister had immediately approved Torch, ignoring Marshall’s hard-won concession to wait until 15 September and then gauge Sledgehammer and Torch based on Soviet fortunes. The result was a delicate dance within the U.S. Army and Navy to plan Torch, put Sledgehammer on ice, but preserve the illusion that both options were still on the table until 15 September.

⁴ History of AFHQ, 5.

⁵ Ibid, 16.

but destined to become the NATOUSA commander in February 1943), and MG Dewing representing the British Home Army.⁶ At this point the staff was not formed, specific assault units were not identified, and only Gale understood an early outline of the plan. During this meeting Gale warned the attendees that the headquarters would have to establish a forward command node, first at Gibraltar and then in Africa, and that they would work with significant restrictions on which personnel and equipment they could expect to take with them. Within two weeks the committee was joined by the American G4, COL Hamblen, and representatives from 1st British Army and the three assault task forces, among them BG Larkin, the commander of the service of supply for the central task force.

COL Sawbridge, the AFHQ G1, conscientiously designed the headquarters in an effort to keep numbers from ballooning. As a part of that effort, Gale, Sawbridge, and the G4 decided that they did not want a COMZ or SOS commander inserted between AFHQ and the field army and corps.⁷ It was an original concept that departed from U.S. doctrine and from General Marshall's preferred method of organization, and it would eventually complicate coordination with ASF and the War Department. It also meant that the AFHQ would have to be a very capable organization to make the system work. When first established the G4 officially consisted of eight officers with an even split between the Americans and the British, headed by COL Hamblen on the American side and Brigadier R.G. Lewis for the British.⁸ The G4 had coordinating authority over the Transportation, Ordnance, Quartermaster, Engineers, Chemical

⁶ Minutes from the CAO Conference 22 August 1942. CAO Conferences File, RG 492, NARA II.

⁷ History of AFHQ, 192, AFHQ G1 Staff Study, "Organization of AFHQ and US SOS Torch," 2 November 1942. Eisenhower discussed the issue with Marshall throughout September and October and both generals agreed that the current system in place in Great Britain was a poor model to follow. Through the middle of January all the key players in AFHQ believed that they could manage the linkage between base sections and lines of communication with the tactical combat elements.

⁸ Personnel assignments 22 October 1942. CG Decimal File, AFHQ, RG 492, NARA II. By July 1943 the American G4 section consisted of fifteen officers and fourteen enlisted soldiers.

Warfare, Surgeon, and Finance service sections, and it could count on their manpower for help. By 3 September the entire headquarters consisted about 2,100 men, with 205 officers and 793 enlisted from the Americans and 344 officers and 726 men coming from British organizations.⁹

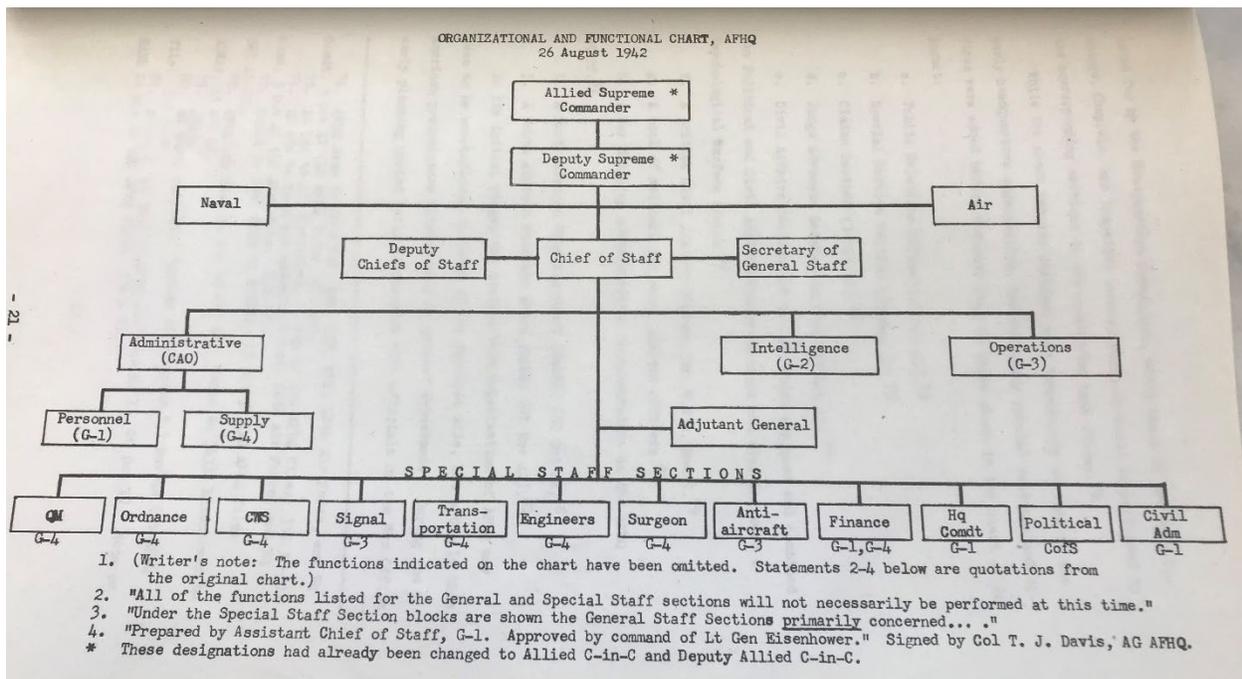


Figure 2.1: Organizational diagram for the AFHQ staff, 26 Aug 42, History of AFHQ

LTC J.W. Ramsey, an infantry officer assigned to ETOUSA, was made the headquarters commandant for the U.S. portion of the AFHQ staff. He was given an oral warning order to assemble a headquarters and headquarters command on 18 August; and after three frantic weeks of work he had pulled the organization together at Shrivenham by 15 September.¹⁰ Ramsey and Sawbridge found themselves working without a safety net. Ramsey was advised to start with the table of organization and equipment for a U.S. field army headquarters and adjust from there as

⁹ History of AFHQ, Part Two, Section 2, 240.

¹⁰ Memo from COL Ramsey (HHC commander) to AFHQ CoS, MG W.B. Smith, "Lessons Learned from Operations Torch," 3 Feb 1943. RG 492, NARA II.

he saw fit. He would eventually command 8,000 U.S. personnel distributed in four different locations charged with supporting the command and staff element that was directing Allied joint and theater operations in the Mediterranean.¹¹ The U.S. Army was learning the hard way that the overhead necessary to run a theater was more significant than everyone had hoped.

BG Walter B. Smith joined the AFHQ team on 15 September; BG Gruenther was moved from chief of plans to become the American deputy chief of staff. MG Gale was officially assigned as the Chief Administrative Officer (CAO), a powerful position on most British staffs, but an anomaly to Americans.¹² The CAO combined the functions of a chief of staff, deputy commander for sustainment, and commander of service troops and communications zone headquarters. Gale would supervise the AFHQ G1, G4, and technical service sections (engineers, ordnance, and quartermaster) affiliated under them and answer only to Smith, Clark, and Eisenhower. The G4 section was one of the largest and ended up being split into three different sub-sections to account for differences between U.S. and British staff structure. There was a small logistical plans section that answered directly to MG Gale, and a Movement and Transportation (M&T) section that was a coequal to the G4 section that dealt exclusively with distribution of supplies by rail, road, waterway, sea, and air. The authorized strength for the G4 and logistics planning section by November 1942 had doubled to seventeen officers and nine enlisted personnel.¹³ The M&T section was led by COL A.T. de Rhé-Philipe (promoted to brigadier on 12 October) and accounted for another eighteen personnel assigned to the logistics team.¹⁴ This team worked closely with the Eastern Task Force M&T section until the AFHQ

¹¹ The four locations were London, Shrivenham, Gibraltar, and Algiers.

¹² History of AFHQ, 18-20.

¹³ Ibid, 51.

¹⁴ Ibid, 54

relocated to Algiers in early December. Gale and the British were providing their American counterparts an education on what was required to supervise logistics at the theater-level.

A decision on the exact way to coordinate support for Torch once the operation started emerged from a series of conversations in late September and early October. It became obvious to Smith and Gale that the command would need a rear command post in London for at least a few weeks while the rest of the staff was flowing into Gibraltar and Algiers. This element would maintain links with military and civilian agencies in London and Washington to track the progress of the first few waves of ships and update command priorities for future convoys. The AFHQ rear would be joined by liaison sections from the central and eastern task forces and deploying air units.¹⁵

This in turn triggered a minor manning crisis by the middle of the month. General Smith published a memo on 24 October directing staff chiefs to submit a wish list for any increases to their sections with a suspense of 27 October.¹⁶ The staff was proving to be too small relative to its workload, compounded by the need to echelon the headquarters at numerous locations. Watching a large part of the staff disappear for the twenty-day journey by ship to Algiers did not help. Clark moved the advanced party of the AFHQ to Algiers on 9 November and transferred the control of operations to the continent on 25 November. The last of the London staff departed on 25 December, and the entire AFHQ was reunited in Algiers by 4 January 1943.¹⁷ The requirement to maintain two fully operational headquarters for almost two months illustrated again the scale of staffing necessary to run joint-combined operations in a theater of war. The idea that a theater might be run by a pick-up team of a couple of hundred men was exposed as

¹⁵ CAO Conference Notes, 2 October.

¹⁶ "Allotment of U.S. Personnel, AFHQ," 24 October. CG Decimal File, AFHQ, RG 492, NARA II.

¹⁷ History of AFHQ, 98-99.

unrealistic. It also illustrated that, if a headquarters was going to try to eliminate one to two echelons of the chain of command outlined in contemporary doctrine and consolidate the work at a higher level, there would be a personnel cost associated with that decision. Only time could tell which method was more effective.

Forming the AFHQ staff in four months while concurrently planning Torch and supervising preparation of the force sailing from Britain was impressive. Senior staff officers followed Eisenhower's wishes to keep the size of the headquarters as small as possible, despite the need to function at three different locations simultaneously. The decision to try to cut out a SOS and COMZ command, at least during the early stages of the operation, was deliberate and underwritten by both Eisenhower and Marshall. This was a bold initiative that might illustrate a more efficient way to run a theater, but it was also likely to trigger a reaction from the traditionalists within the service of supply community. The sustainment portion of the AFHQ staff would be under a lot of pressure to make their solution work; if it was perceived as a failure, they would be forced to conform to a more conservative approach. Their cause was not helped by the distractions associated with forming the staff and assembling the invasion force. As a result of these more immediate concerns, the staff at AFHQ had thought little about what came next after securing Algeria.

The Base Plan: War Department OPLAN Northwest Africa Theater

The AFHQ deployed to Algiers to control an operation that had been coordinated in less than four months, but it was also a problem that had been studied off and on since December 1941. The U.S. War Department had published a hefty document titled "War Department OPLAN Northwest Africa Theater" on 20 February 1942 and had continued to work with the

British to refine the plan into early April.¹⁸ The earliest ideas for how the United States would conduct operations in Northwest Africa, in cooperation with the United Kingdom and a compliant Vichy France, were outlined there. The document was written by the GHQ G5 (a precursor to the War Department's OPD) and included a base order and dozens of annexes. The document outlined an Allied occupation of northwestern Africa to preclude a German move through Spain to do the same. The document included G4 and ordnance annexes, and a complete copy was found in the SOS, NATOUSA operational plans files after the war.¹⁹ The list of assumptions driving the plan included slight (or no) resistance by Vichy French forces, a U.S. theater commander but largely independent British operations within the Mediterranean, and a total commitment of six divisions.²⁰ The plan included the assumption that "local labor will be sufficient to handle supplies and cargo" for the Allied force.²¹ This incorrect assumption was retained for the duration of the campaign, and it caused numerous problems in maintaining and operating the railroads and in keeping a truck shuttle system running from the ports to the rear of the 1st Army combat zone. According to the draft plan, the British would land at Algiers and then occupy Algeria and Tunisia while U.S. forces seized Casablanca and northern French Morocco prior to linking up with the British in Algeria. Upon unification the British force would fall under American control. It is obvious that some of these assumptions and concepts survived the frenzied planning of August through October 1942 even if they did not make perfect sense based on current conditions.

¹⁸ Maurice Matloff and Edwin M. Snell, *Strategic Planning for Coalition Warfare, 1941-1942* (Washington, D.C: Chief of Military History, 1953), 176. The final version was written by a joint coalition body of planners answering to the CCS. American officers on the War Department and Service of Supply staff were involved in this lengthy and far reaching project. A copy of the entire document, with annexes, was filed for record by the AG for the SOS, NATOUSA.

¹⁹ SOS, NATOUSA, Operations Plans File, RG 492, NARA II.

²⁰ *Ibid*, 1-2.

²¹ *Ibid*, 2.

The authors of the G4 annex grappled with how to sustain three unidentified U.S. divisions landing at Casablanca in the assault wave with perhaps one or more divisions arriving in a second wave. Other than vague references to linking up with the British in Algeria there was no sense of the flow of the overall campaign, and therefore, no way to anticipate how to logistically support it. The logistical planners did understand that “motor vehicles will be the principle (sic) means of transportation, augmented by existing railroad facilities.”²² The plan stated that engineers would operate the railroads, a directive out of touch with recent moves to establish and define the role of the Transportation Service in the U.S. Army. Seemingly a minor issue, this would nonetheless lead to some confusion and wasted energy between BG Larkin and MG Hughes near the end of the campaign as the two leaders traded a series of notes to one another in April 1943 trying to determine exactly who was responsible for what.²³ Larkin was forced to point out to his boss that both doctrine and early guidance provided to assist with planning for Torch had assigned responsibility for new construction and major repair work to the engineers and not to the Director General of the Military Railway Service. It was not a good omen for clearly understood division of responsibility if senior commanders were debating the issue in April 1943.

Planners in the War Department hoped that most of the French rail equipment would be voluntarily handed over in good working order. According to the plan, Morocco had 133 engines and 4,088 freight cars that could constitute twelve trains daily, each train carrying 240 tons of equipment. It was also noted that Casablanca harbor could shelter 43 ships with room

²² Ibid, 11.

²³ Letter from Larkin to Hughes 15 April 1943. MG Larkin file, SOS, NATOUSA, RG 492, NARA II.

enough for eighteen of them to berth at any one time, and there were plenty of cranes and other equipment for handling already in position.

After the assault wave, the force would be supported by five reinforcing convoys, generally arriving about once a month. The critical priority for convoy one was fighter aircraft, the priority for convoy two was not designated – it would respond to theater priorities; convoy three would deliver dive bombers, and convoys four and five would prioritize tanks. The plan also called for fantastic levels of reserves for each class of supply, preferring 30-45 days of supply and at least twelve units of fire for every major weapon system. But the plan did not explain how these mountains of supply would be stashed in warehouses around Casablanca or shuttled to the east once it was time to link up with the British. The British would be responsible for their own resupply from the U.K, which added to the complexity of the operation but also provided the opportunity to make up for problems with logistics on the U.S. end. Finally, G4 planners emphasized the criticality of properly marking containers and pieces of equipment in accordance with the Army regulation covering this subject, AR 30-1190. It was good advice that was not followed; improperly marked containers were a major cause of the initial backlog along the docks that developed at Casablanca and Oran.

One annex outlined the concept for ordnance support, which, at this point in U.S. Army organization, was the plan to maintain all aircraft and tracked and wheeled vehicles and to provide ammunition to ground and air units. The plan assumed that ordnance service troops consisting of about 2,600 men would be included in the deployment schedule. This force would be sufficient to support four divisions, as well as corps troops and three aviation groups. This would include a repair battalion, an ammunition handling battalion, and an aviation mixed-detachment of about two battalions including mechanics and ammunition handlers. There was

no transportation annex, since this service was too new to have staked out distinct mission areas that were universally understood by other branches and services. This was one of many examples of a persistent blindness across the U.S. Army to the criticality of distribution networks managed above the army or army group level.²⁴

The Updated Scheme of Maneuver and Sustainment Concept

At the beginning of August there was a lot of difference between the U.S. and British concepts for how the invasion would unfold. The initial American position was more risk-adverse, likely affected by the exclusively American operation to establish a base at Casablanca before moving inland. Only after securing a base on Africa's Atlantic coast would U.S. divisions advance into Spanish Morocco to open the Mediterranean. The British were comfortable with staging a simultaneous landing in Algiers while the Americans seized Casablanca. It was only in early September that the final version of the assault plan was approved, calling for three separate task forces landing at Casablanca, Oran, and Algiers. Planning in something of a logistical vacuum, the team agreed upon the desired strength for each assault force.²⁵ The Western Task Force would sail from the eastern coast of the United States and land 29,000 men around Casablanca. The Central Task Force would form in Great Britain and put 25,000 Americans

²⁴ COL (later MG) Frank Ross, the ETO chief of transportation, probably got it. Gale referenced a staff paper written by Ross in September that explained how shortages among the various modes of transportation would impact the campaign at various stages. Even if AFHQ realized they needed a long-distance distribution system, they hoped 1st Army and the British 1st LoC command would solve the problem. Also, they did not foresee the need to move American units from the CTF or WTF to Tunisia as quickly as the situation demanded. Finally, shipping limitations drove massive reductions in the number of vehicles delivered in the first three convoys; AFHQ would have faced a tough battle adding theater truck companies to the prioritized deployment list. Eisenhower only saw the light by mid-January 1943.

²⁵ Richard M Leighton and Robert W. Coakley, *Global Logistics and Strategy 1940-1943* (Washington, D.C.: Center of Military History, 1955), 420-426.

ashore around Oran. The Eastern Task Force would also arrive from Britain and land 10,000 Americans in the first wave before (with any luck) landing follow-on U.K. forces a few days later. The British hoped to land at the end of October, but Eisenhower projected 8 November as more realistic. There was only a vague understanding of what would happen once the invasion was ashore and Vichy officials came around to the idea of cooperation. Eventually 1st Army would move east into Tunisia, either to link up with the French or to defeat early Axis reinforcements. It was hoped that 1st Army could help 8th Army destroy the German and Italian forces in Libya and Egypt.

The term “sustainment plan” is misleading for Operation Torch. It might be more accurate to refer to two plans: a convoy plan and a theater communications zone plan. For logistics to work in North Africa, the plan had to blend two interlocking but separate activities: moving the right mountain of vehicles, personnel, and supplies to ports in Northwestern Africa for months on end; and shifting those assets forward into the combat zone. AFHQ understood and addressed the first portion, but it delegated too much of the second task to 1st British Army, assuming the theater command would have time to flesh out the system once the joint headquarters had relocated to Algiers. The first phase of the sustainment problem was complex and consumed most of the attention of the AFHQ and ASF planners, and, to a large extent, resourcing and coordinating the details were out of Eisenhower’s hands. The second phase was not prioritized by AFHQ; what would happen if 1st Army made contact with a sizable German or Italian force before reaching northern Tunisia was not addressed in any helpful way. There was no Plan B for moving U.S. units into the fight or for sustaining a large Allied force in the mountains of Tunisia.

The two major gaps in the Allied plan for logistical support on the continent were the result of two separate decisions. First, 1st Army was given control over the Line of Communications command (L of C in British terminology) and its rear area operating zone until some projected date when control would pass to AFHQ. This occurred officially on 1 January, but Gale had assumed effective control by 3 December 1943.²⁶ As a result, 1st Army owned the planning process, coordination with the War Office, and supervision of the first few weeks of the campaign. Theoretically there was nothing wrong with that decision, but in hindsight Gale believed 1st Army held on to that authority for about a month too long. But during the planning process for Torch Gale insisted on establishing a liaison element, headed by the 1st Army deputy quartermaster general, at AFHQ to reduce overlap and delays. Gale and his British logisticians knew what 1st Army was planning, but the Americans were noticeably missing.²⁷ The U.S. G-1 and G-4 were not effectively integrated with their British counterparts until January and a combined logistics planning section created until early February. Gale and his counterpart at 1st Army felt they had a good handle on how the early ground campaign would unfold, but U.S. and joint (air force and navy) requirements remained something of a wild card.

The first maintenance project, or scheme of logistical support, was developed by 1st Army in early September and validated by Gale and the Inter-Services Committee in October.²⁸ Anderson's goal was to capture Tunis and Bizerte by D+24, or around 3 December. The first intermediate objective was to reach Bougie and Setif and be ready to continue on to Philippeville by 20 November. Bône was the second objective and base area, which would be run by British

²⁶ Carter and Kann, 6-7, 24.

²⁷ Carter and Kann, 7-8. AFHQ had a British logistical plans section from the outset, with the three traditional departments, AQMG, DAQMG, DAD Transportation, and small clerical staff operating under Gale's direction. An Inter-Services Planning Committee was set up in August 42 and the British chief of logistical plans from AFHQ attended these meetings.

²⁸ Carter and Kann, 11.

support troops arriving on convoy KM 3 around 22 November. The team believed they had sufficient resources to support the campaign, but worried that all of these units had no combat experience.²⁹ There were never going to be enough ships to move everything as soon as everyone wanted, so 1st Army established a set of priorities to guide the flow of service units into theater. Units that would help maintain the initial landing parties by unloading supplies over open beaches were the highest priority, followed by units that unloaded ships and pushed the supplies forward, and finally, troops that would work the line of communication by hauling supplies up to the front line were the least critical.³⁰ In the end 1st Army believed it had everything it needed on the first three convoys to sustain a drive that could reach the two large ports in northern Tunisia. But Gale and the planners at 1st Army failed to anticipate how much they would have to help the RAF and U.S. Army with logistical support east of Algiers, which overturned the finally tuned balance of combat and service troops distributed across the first four convoys landing in North Africa.³¹

During the fall AFHQ admitted that they would probably need to merge the three services of supply within each task force as the campaign progressed. AFHQ planners also indicated that they would delegate the authority and resources necessary for 1st Army to supervise sustainment in the combat zone after being joined by U.S. units. Marshall and Eisenhower traded thoughts on the best way to organize logistical support in North Africa in September and October, and Marshall agreed with Eisenhower that replicating the structure currently in place in Great Britain would not be a good solution. Marshall's reply to Eisenhower on the subject concluded: "The organization of HQ ETO and the HQ SOS in Great Britain has proven so uneconomical in

²⁹ Carter and Kann, 13.

³⁰ Carter and Kann, 14.

³¹ Carter and Kann, 22.

personnel and so unsatisfactory in coordination between the two headquarters that AF ought not to repeat the errors.”³² Eisenhower and Smith must have agreed, and Gale planned on running Allied logistics himself for as long as possible, with no intermediate headquarters between AFHQ and the task forces or 1st Army.

Allied Force Headquarters (AFHQ) published its first draft of their logistics plan on 27 October 1942, and it did so only after prodding by the U.S. War Department Service of Supply command (the future ASF). AFHQ found it difficult to prepare adequately for the coming invasion, and setting down written instructions on how the headquarters wanted to operate in theater was considered a secondary priority. The paucity of details contained in the draft submitted at the end of October, and the time required to turn that draft into a final version illustrated the problems the AFHQ staff was wrestling with. The AFHQ logistics plan was finalized on 4 December, almost a month after Torch began.³³

The final version of the sustainment plan focused on who was in charge of supplying each task force, the boundaries for three base areas (eventually one per U.S. task force and major port), the required stockage levels by class of supply, and the places in the United States and Great Britain from which supplies would travel. In hindsight, all three versions of the logistics plan for Gymnast or Torch were missing a couple of key components. The plan gave no detail on how a theater distribution network would be established. Exactly how supplies would be moved from the port region to the forward dumps over poor roads and one rail line and then be forwarded to the combat divisions was not addressed. What would have been very helpful was

³² History of AFHQ, 198. Marshall made this comment in September or October 1942. Taken in context with the developments that will be covered in the next chapter, Marshall was calling for a merged theater and SOS headquarters, and not talking about the manning of AFHQ or its relationship with any U.S.-only organization. The practical application is that ETOUSA (and its SOS) should manage all U.S. administrative functions in North Africa.

³³ George F. Howe, *Northwest Africa: Seizing the Initiative in the West* (Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1957), 66-67.

an estimate of what 1st Army would need to sustain not only British forces but also two to four American divisions and any air elements stationed east of Algeria. Based on experience gathered over the coming year, the logistics estimate for the campaign should have listed service units and special equipment required, and outlined the procedures of how to report shortages within American units attached to a British field army.

Finally, a projection of what the final Allied footprint in northern Tunisia would look like at the end of the campaign would have been helpful. Bizerte was the logical place for the Germans and Italians to try to intervene, or the best base from which to try to interdict the resupply or evacuation of Panzer Army Africa. It may very well have been the best assembly area for a follow-on campaign to capture western Libya and force Rommel to fight in two directions. What would be required to direct and sustain the forces in each of these contingencies? A joint estimate aimed at defining the general parameters of these options would have outlined the various service headquarters needed to direct their efforts and the support troops needed to sustain their work. The estimate also suggested a general timeline for the activation of intermediate service headquarters as they became necessary. Allied leaders knew they had an insufficient concept to drive the preparation for the next stage of the campaign beyond the initial landings and a lunge for northern Tunisia, but they ran out of time to address it before the invasion. They believed they would have time to work it all out once in Algeria, because they understood the fact that the limited infrastructure would slow the movement of Americans to join the eastern task force. The most significant variable was how the enemy would react to the invasion, and, until the Germans tipped their hand, detailed planning would be problematic. Lacking both practical experience and well-developed doctrine to guide their efforts, the AFHQ did not know how to focus their preparations on the most critical aspects of

the campaign. Lacking a practical understanding of how shortcuts in resourcing the communications zone would limit tactical options in the combat zone, the opportunity for an overwhelming victory as soon as December 1942 slipped through the Allies' grasp.

Sustainment Phase One: Deployment

Simultaneous planning at various echelons in the chain of command was a painful necessity for the Allied expeditionary force from August to October. The War Department (specifically the Operations Division, or OPD), ASF, and WTF operational planning staffs started working together in early August, making assumptions about the most desirable troop list, timeline, and overarching campaign plan. Who exactly was in charge of what was a jumbled mess. In the end a balanced team of OPD, ASF, and WTF planners coordinated with AFHQ to get a force equipped and mounted for movement to Morocco. OPD and ASF were forced to plan at two levels: one focused on the overall Torch invasion and subsequent build-up, and the other oriented on the details associated with moving the WTF. It was not until 2 September that OPD could publish the list of divisions in the United States that would participate in the operation.³⁴ OPD and ASF relied on ETOUSA and AFHQ to get the U.S. forces in Great Britain ready for the invasion. The 1st Infantry, 1st Armored, and 34th Infantry divisions would deploy from Great Britain, and prove to be the tougher problem for the ASF. The desire to plan things in detail well in advance of deadlines proved to be impossible because no one really understood how the

³⁴ Leighton and Coakley, 426. The troops were projected to arrive in three waves: 3rd and 9th ID and 2nd AD in wave one; 3rd AD in wave two (support for this division was complicated by the fact that the first brigade was equipped with Grants rather than Shermans); and 4th, 36th, and 45th ID in wave three. Each wave also brought in headquarters, service, and non-divisional support troops. Shipping and port constraints extended the movement to four waves. Table 9 on page 437.

movement by sea was going to work, nor did they realize the last-minute heroics that would be necessary to make up shortages of equipment and supplies.

The three divisions in Britain had been rushed overseas and were missing critical organic equipment. The 1st Infantry deployed without its artillery and the 34th ID still had its old World War I howitzers.³⁵ Much worse news arrived from Eisenhower on 8 September – a fourteen-page list of missing supplies and equipment needed to pull off the attack from Britain, amounting to 344,000 ship tons of cargo.³⁶ COL Hughes, the senior American SOS planner attached to AFHQ to help plan Operation Torch, had discovered these issues by going door to door to all of the service chiefs at Cheltenham inquiring about their shortages.³⁷ By 4 September Hughes had turned this into an official memo to share with the War Department and AFHQ staff. There were some outright shortages, primarily in artillery, anti-tank guns, small arms, a few categories of ammunition, and trucks for the Central Task Force, but for the most part Hughes was pointing out insufficient supplies of repair and replacement items.³⁸ This early in the war the U.S. Army was still in the process of outfitting its first divisions and air groups with modern equipment; the units that had been rushed to the U.K. went with obsolescent heavy weapons or outright shortages. Eisenhower passed along a consolidated list of his missing items to Washington on 14 September. The ordnance portion of the report identified the key shortages that had to be addressed before the launch of Torch: 38 75mm SP guns, 32 75mm SP howitzers, seven towed

³⁵ Ibid, 424-425.

³⁶ Ibid, 429.

³⁷ Diary, August 1942, Box I-2, Everett S. Hughes Papers, Manuscript Division, Library of Congress.

³⁸ “Report from Ordnance Chief, SOS, ETO” 4 Sep 42. Hughes focused on a lack of repair parts for rifles, machine guns, indirect fire control equipment, and howitzers. Repair parts for wheeled and tracked combat vehicles were in short supply, but at least 15 DOS were on hand; there were almost no repair parts or replacement major assemblies for wheeled support vehicles. There were less than five units of fire for some weapons, to include rifles, BARs, and 105mm artillery. Radio batteries were also in short supply. Although the document would go on to report a massive number of shortages, work arounds existed to preserve Allied tactical flexibility. The late identification of these problems caused a lot of stress among the staff, but did not impact operations in North Africa. Box I-6, ESHP.

artillery pieces (105mm and 155mm), 114 37mm anti-tank guns, 200 company and battalion mortar tubes, 4,200 rifles, 10,000 pistols, and repair parts for the lot.³⁹ The cable also pointed out that the central task force was short 3,800 2.5-ton GMC trucks and 200 heavy tractors, but in the next few weeks the coalition planning team would realize they did not have enough ships to move all of these vehicles with the assault force at the same time anyway. Meanwhile, Hughes and Eisenhower had just dropped a major problem in the War Department's lap.

It did not help that the SOS in Washington and the port command in New York could produce records indicating that most of the missing equipment had already been shipped to the U.K. In the SOS's defense, they had only been operating for about three months by this point, and they had not integrated any meaningful number of U.S. service troops until early August. The first shipments of supplies had been received and dispersed by the British, and now no one could figure out where everything was stored. Containers arrived in country with vague or missing shipping labels, and record keeping on where cargo had ended up was non-existent. COL Frank Ross, the chief of transportation at ETOUSA, conducted a survey over the summer of 1943 that helped reveal the scope of the problem. Ross examined all the cargo on one ship coming from the United States and discovered that 30% was not marked at all. Of the remaining items, 25% had no delivery address.⁴⁰ Record-keeping in depots and warehouses located all around Great Britain was no better. Yes, the material had been shipped, but it had seemingly disappeared, and now the most important items would have to be replaced.

New material to make up the critical shortages would have to be loaded in the States and arrive in Britain for distribution to the assault forces before their loading date of D-14, or around

³⁹ Cable 1949, 14 Sep 42, Eisenhower to AGWAR. Box I-6, ESHP.

⁴⁰ Leighton and Coakley, 333.

20 October. Slow convoys from New York to the British Isles took about fifteen days, so the ASF had less than a month to find and load the equipment for Eisenhower. They were not successful. Convoys left the United States, usually late and anywhere from half to three-quarters full, headed to the United Kingdom, Oran, or Casablanca, where their cargo was then moved by rail to Oran.⁴¹ By late September BG Hughes was so concerned about remaining shortages that he advised his superiors at AFHQ to postpone the invasion until 15 December; General Clark would not even consider the idea.⁴² Some of the requested material reached North Africa just before December, but over two-thirds was unloaded in Britain where it was added to the pile of critical items awaiting movement to Algiers. U.S. planners at AFHQ still had a lot to learn about how far into the future they had to be thinking, the practical cutoff for changes and new requests, and the implications of missing those deadlines. The implications of the September supply crisis were the expenditure of a lot of effort with no positive outcome, clogging the distribution system with irrelevant supplies, and the deterioration of trust among the ASF, ETOUSA, and AFHQ staffs. In the short term the pain associated with the emergency demand for supplies from the United States was unproductive and avoidable, but it was necessary in the long term to fuel learning and reform that would occur in 1943.

The worst blow of all came between 17 and 28 September. Until then, planners had ignored the tricky calculus needed to figure out exactly how many men or tons of equipment could arrive with each convoy. It really was an algebra equation, and one that the AFHQ staff only got around to solving at the end of September. Time and experience would demonstrate that this was the fundamental business of effective strategic and operational staffs; but in the late

⁴¹ Leighton and Coakley, 434-435. The emergency list generated by Eisenhower's Message 1949 got tangled up in the routine convoy schedule moving between New York and Britain and the ever-changing material lists for UG-2.

⁴² Hughes diary, September 1942. ESHP, LoC.

summer of 1942 the Americans were just not there yet. They had committed a common mistake – they had dreamed up a scheme of maneuver and then tried to see if it was possible to move everything at the same time and then sustain it once it was all in place. The experts realized that Eisenhower’s initial plan was impossible to carry out, and by 28 September they had worked out a convoy schedule that was grounded in reality.⁴³

The maximum size of each convoy depended on two independent variables. The first non-negotiable variable was the number of anchorage sites at each port that the Allies hoped to control in North Africa. Linked to this number was an estimate of how long it would take to unload each ship and how much risk the navy was willing to accept by allowing loaded ships to loiter in submarine- and airplane-infested outer harbors. In hindsight this was not the limiting factor. The second independent variable was the number of combat escorts offered up for Torch by the U.S. Navy and Royal Navy and the fixed ratio of combatants to non-combatants that the U.S. Navy used as their planning factors. The navies would take a little more risk with the slow convoys used to move material and supplies but not with the fast convoys carrying thousands of human beings. Equipment and a couple of dozen merchant marine crewmen were expendable in the big picture; thousands of soldiers were not. This proved to be the factor really limiting both the number of cargo ships within each convoy and the frequency with which new convoys could depart the United States or Great Britain.⁴⁴ When the professionals compared the number of ships available within each convoy with the number of men and tons of equipment and supplies

⁴³ Leighton and Coakley, 435-439.

⁴⁴ Ibid, 436. Table 8, “Anticipated Port and Convoy Limitations for Slow Convoys to North Africa: September 1942,” and associated text explain all the variables and conclusions. The text is incorrect in concluding that both independent variables led to the same limiting factor of 100 ships in theater at any one time. The Allies found ways to unload ships, both berthed and out in the harbor, much quicker than their earliest estimates had indicated. See page 468. But the Navy stuck to their guns on 45 ships per convoy (UG and KM) and would not assign more escorts.

to be moved, they realized something had to give. Eisenhower and his planning team decided to prioritize men over equipment, and the extravagant earlier estimates for reserve days of supply and units of fire were slashed to the bone.⁴⁵ More troubling was the decision to cut down the total number of wheeled vehicles from the central and eastern task forces; the late September estimate of cutting only 25% of the trucks gave way to a more realistic estimate on 14 October that half of the trucks would have to go.⁴⁶ Patton's WTF experienced the same pain; when General Clark elected to preserve a 167,000 man force, equipment and supply reserves were the bill payers.

Sustainment Phase Two: Operations on the Continent

Early in the planning process the AFHQ sustainment team did not understand the scheme of maneuver. As of 22 August, it was assumed that there would be only two assault task forces, one at Casablanca and one at Algiers. Each task force would have its own service of supply to direct the assigned sustainment troops; they would unload supplies at the port and then move them forward to the tactical units. Eventually the two task forces would merge under 1st Army with one overarching SOS, but the timing was purposely vague.⁴⁷ Two weeks later the planning group understood that it needed to sustain three task forces, and their efforts intensified when Gale informed them that the deputy commander, MG Mark Clark, expected a draft administrative plan by 19 September.⁴⁸ This had to be frustrating since the planners still did not

⁴⁵ Ibid, 437-38.

⁴⁶ A process illustrated by the notes from the CAO meetings in September and October outlined below.

⁴⁷ CAO Conference Notes, 22 August.

⁴⁸ CAO Conference Notes, 12 September.

have sufficient details on the size of the invasion force or the associated convoy schedule to land and sustain the three elements.⁴⁹

The core of the AFHQ planning staff received assistance from other U.S. and British organizations, to include the SOS of ETOUSA. COL Frank S. Ross, the chief of transportation at ETOUSA, was a key early addition to the team, and an officer who would play an important role in trying to sustain the drive across France in 1944. Ross worked with the ASF to match the inland transportation requirements against the projected invasion force. Gale called attention to an early estimate written by Ross during the 19 September conference on administrative coordination and advised all the planners to study the document. Ross was wrestling with the fact that the Moroccan ports could handle more tonnage than the projected transportation force could shuttle to Oran. Ross assumed that the Allies could run five military trains a day from Casablanca to Oran, and that the service forces would have 8,000 2.5-ton trucks with trailers available as well. Based on these capabilities, the U.S. would have to underutilize Casablanca or find additional rail or truck assets to move 60,000 additional short tons a month from Morocco to the front.⁵⁰ Only his first assumption proved to be accurate during the first two months of the campaign, meaning that the transportation shortage was even more pressing than Ross had predicted.

Helpful details continued to emerge as the planners raced against the deadline for loading ships along the eastern U.S. seaboard. By 23 September the team knew that they would have to

⁴⁹ Ibid, 12 September 1942. Eisenhower sent his final proposed convoy schedule to the War Department on 27 September. This was the first convoy schedule that took into account Navy requirements for minimum speed of merchant vessels, escort to merchant ratios, berthing space at the ports in North Africa, and Eisenhower's desired troop strengths by convoy. See Richard M. Leighton and Robert W. Coakley, *Global Logistics and Strategy 1940-1943* (Washington, D.C.: Center of Military History, 1955), 435-438 for the adjustments to the scheme of maneuver and convoy plan after the staff figured out the relevant limiting factors.

⁵⁰ Leighton and Coakley, 469. Table 12 is based on a series of planning memos circulating between the extended AFHQ planning team and the SOS/ASF staff in Washington, D.C.

support a force of thirteen divisions, nine U.S. and four British, and their associated headquarters and supporting combat and service troops. AFHQ assumed that the Allies would have 90 days to set conditions for two U.S. divisions to be operating with 1st Army along the eastern Algerian border with their logistical support flowing through Algiers.⁵¹ Primary administrative concerns haunting Gale and his team during the second half of September continued to be coal, fuel, and ammunition requirements.⁵² The debate over coal revolved around establishing a realistic estimate that included civil and military requirements and identified whether the coal would come from the United States or Great Britain. This was important because for every ton of coal loaded on a ship there would be one less ton of equipment and supplies for the combat forces. The concern with fuel was not just about moving it in bulk to North Africa. Also crucial was the requirement to move it inland with a mixture of a new pipeline, bulk wheeled tankers, 55-gallon barrels, and five-gallon jerry cans. The ordnance planners could not progress beyond generalities until the G3 established exactly what a unit of fire was for every weapon system in both the U.S. and British inventory.⁵³

One of the most significant problems that some senior leaders realized would plague the campaign was a shortage of trained and equipped service troops; logistics units would comprise

⁵¹ CAO Conference Notes, 23 September 1942.

⁵² CAO Conference Notes, 18, 21, 28, and 30 September.

⁵³ Gale turned over ammunition questions to the G3 rep at his daily conference on 28 and 30 September. It was a complex issue because the G3 had to establish not only the total number of rounds that would constitute a unit of fire but also the percent of different shell and fuse types. As an example, the G3 issued guidance on 28 September that the 25-pounder (a medium howitzer) unit of fire would consist of 90% high explosive, 10% smoke, and 5% overage (of the normal unit of fire) for anti-tank ammunition. Similar guidance had to be published for hundreds of direct and indirect fire weapon systems. Although the U.S. and British shared a large number of weapon types, it could not be assumed that their units of fire were the same, either. Unit of fire is a complex concept that was sometimes mistakenly equated to a daily consumption rate in heavy combat. Weapon units of fire were aggregated at the formation level (platoon, company, battery, squadron, etc.) to designate the number of rounds carried organically to sustain a few days of intense combat. As a unit was in sustained combat for a day or more the service chain would push forward a replacement unit of fire. The modern military term is a "basic load."

only 11.8% of the U. S. Army at the end of 1942.⁵⁴ Somervell and Leroy Lutes (the operations officer for SOS/ASF) had seen the problem coming. During a visit to the United Kingdom in the spring of 1942 the two leaders realized that the U.S. Army had committed an organizational error in putting all service forces at the level of field army and below while retaining doctrine that called for a separate COMZ. ETOUSA needed separate service companies and battalions to accomplish its mission, and these forces were not currently available without taking them from their associated armies, corps, and divisions.⁵⁵ Upon his return to the United States in June, Somervell submitted a request to increase the SOS by 625,000 men in 1942 to fill out these units. But Marshall could not absorb these numbers without wrecking the plan for balanced expansion, and the War Department authorized an increase of only 200,000 men for 1942. Regardless, the SOS could not form, train, and equip these units in the four months available before Torch. Eisenhower recognized the likely impact of the shortage himself. After stripping everything possible out of ETOUSA, he still needed significant reinforcements of service troops from the United States to cover his requirements. But at the end of October Marshall and Somervell knew the training base was empty and told Eisenhower he would have to make up his shortages from British troops or native labor in North Africa.⁵⁶ It was not until the end of March 1943 that AFHQ and ASF believed that the right balance of combat, aviation, and service troops had been achieved in theater.

The U.S. and British plan was well thought out and properly resourced with operators, mechanics, and line maintenance teams. Both teams hoped that French engines and rolling stock would meet most needs but submitted an estimate for material to be delivered from the United

⁵⁴ Ruppenthal, Vol I, 56. By the end of World War I, service troops accounted for 34% of the AEF in France.

⁵⁵ John D. Millett, *The Organization and Role of the Army Service Forces* (Washington, D.C.: Center of Military History, 1954), 59.

⁵⁶ Leighton and Coakley, 480.

States just to make sure. The task was complicated by the fact that the United States and United Kingdom operated with a standard-gauge rail system while the French had built lines based on the metric-gauge in North Africa. If the AFHQ discovered they had to import equipment, it would be much easier to find standard-gauge cars, but they would have to be converted for use on the metric-gauge lines. The early joint estimate on what would need to be imported was 250 standard- and 175 metric-gauge engines and 5,000 freight cars of various types and gauges.⁵⁷ This equipment was given a relatively low priority, and the first pieces did not arrive in North Africa until January 1943. Specialized transportation units would land with the U.S. assault forces at Casablanca and Oran to repair and run trains; the British would follow on 13 November at Algiers. One American and one British rail-operating company would land with the initial assault, to be joined by headquarters, construction, and repair units on KM and UG-2.⁵⁸ Orleansville was selected as the initial dividing point between the two national efforts.⁵⁹ The British would work on two priorities simultaneously. Priority A was to restore the coastal route from Algiers to Bougie, then inland to Setif and Constantine, and then westward to connect with the Americans at Orleansville. Priority B was the line from Bône running along the coast to La Calle, then inland along the Algerian-Tunisian border, and finally back to link in with the Algiers system and Philippeville and Constantine.⁶⁰ Leaders would be provided by U.S. COL C.L. Burpee of the 703rd Railway Grand Division landing at Casablanca and LTC E.T. Barrett of the 761st Railway Transportation Company at Oran. The British planned to include a few officers

⁵⁷ AFHQ Military Railway Service, "Chronological Statement of North African Railway Operations" 30 Nov 43, 4. Transportation Section, MTOUSA, RG 492, NARA II.

⁵⁸ Ibid, 1-4.

⁵⁹ The modern Algerian town of Chlef which is about equidistant between Oran and Algiers.

⁶⁰ "...North African Railway Operations", 2.

from the Headquarter, No. 1 Railway Operations Group with the operating company landed at Algiers on 13 November.

A Shortage of Naval Escorts Unravels the Plan

In early October the implications of the reduced tonnage estimates for the first few convoys began to hit home. At the daily meeting on 2 October the 1st Army representative briefed that they were cutting 260 vehicles from KM 3, primarily 3-ton lorries, based on recent guidance on the anticipated size of the convoy and the prioritization of manpower over equipment.⁶¹ The next day the news got worse; informed that the RAF would send considerable numbers of crated fighter aircraft starting with KM-3, 1st Army reported that they would have to increase the projected cuts to supply trucks up to 415. Gale lost the fight to find another ship to carry these planes and his suggestion to the Chief of Staff to prioritize trucks over aircraft was denied.⁶² Near the end of the month 1st Army was back, talking about cutting 400 more wheeled vehicles; everyone in attendance was aware that the continued cuts were putting at risk the ability to move cargo from the docks into local warehouses and then forward to the fighting troops.⁶³

⁶¹ CAO Conference Notes, 2 October 1942. All convoys from Britain to Oran or Algiers began with "KM". US convoys to North Africa started with "UG". This was followed by a "S" or "F" to designate slow and fast convoys. Fast convoys carried troops while slow convoys carried supplies, equipment, and vehicles. Slow and fast were relative terms. The minimal speeds necessary to join one of these convoys were established by the escorting navy. The number following the two or three letter code equated to the wave of convoys; there was a new convoy from Britain about every 15 days, and every 21 days from the United States. Three-ton lorries were the 2.5-ton GMCs of the British Army.

⁶² CAO Conference Notes, 5 October 1942. The system used to track major administrative issues through resolution (for better or worse from the perspective of the logistics community) was impressive. Each issue received a distinct number, and Gale hounded the staff on open issues until they were closed out. Every problem raised in this forum was closed out in a few days and never more than a week. If someone forgot about a problem, Gale would bring it up and demand an answer after a few days without a progress report. The distribution list for the daily meeting notes grew from ten recipients on 22 August to 38 by 2 October.

⁶³ CAO Conference Notes, 23 October 1942.

The U.S. trend of prioritizing immediate combat power at the expense of the means necessary to sustain men and equipment with spare parts, ammunition, and fuel continued throughout the planning phase of Torch. It was a habit that Eisenhower found difficult to consistently break over the next two years. It seemed that Eisenhower and Clark could not envision the repercussions of their priorities and that no one on the staff could help them recognize how these decisions would play out in Tunisia.⁶⁴ In the interest of reducing risk to the initial landing, Eisenhower was actually projecting additional risk into follow-on stages of the operation. By weighting the first strike with assault troops, supporting fires, and follow-on combat troops, the chance that the initial landing would be successful increased. But it also meant that the force would have a harder time transitioning to mobile operations designed to exploit the landing and would be slower in developing the logistical capacity of nearby ports and in restoring the transportation infrastructure. Avoiding casualties during the initial landing was laudable, but rushing to Bizerte and Tunis may have been more economical in the long run. Managing risk is an art, not a science, but Eisenhower always seemed uncomfortable accepting any risk during the landing phase, even if he understood it might produce disadvantages during the exploitation phase.

This had to be a frustrating and surreal experience for logisticians at the theater and task force levels. On 15 October Gale reminded the audience of an upcoming commanders' conference to be held the next day. The purpose of the event was to discuss the scheme of maneuver for each task force; Gale wanted to ensure that SOS chiefs attended as well, ready to

⁶⁴ Eisenhower was consistent. Over the next eighteen months he repeatedly prioritized reducing the risk to the initial landings, even if this increased the chance that it would be more difficult to conduct follow-on operations. Eventually the logisticians around him developed techniques to help explain the connected nature of these decisions. By early January AFHQ had a good understanding of the interrelationship between transportation and front-line combat strength, and it produced a succinct appreciation in late January to explain why each additional combat unit in Tunisia had to be matched with an increase in service troops along the entire line of communications.

answer any questions about the scheme of support. This conference triggered the publication of two important draft plans for Torch, a supply plan and a concept of support on the continent. The two-page AFHQ supply plan, written largely to satisfy the U.S. SOS at the War Department, spelled out how each task force would be periodically resupplied and how that plan would evolve over time.⁶⁵ The plan formalized earlier oral agreements on supplying the Western Task Force from the U.S., the Eastern Task Force from the U.K., and a blended system for the Central Task Force. Initially the Central Task Force would be supplied from the United Kingdom; but by the third or fourth convoy from the U.S., their base would switch to the U.S. The plan also made explicit how each task force would requisition supplies from the appropriate base, flowing from the task force SOS through AFHQ and then back to the applicable national structure in the U.S or U.K. In any case, ETOUSA did not have an acknowledged role in the process, despite Hughes' attempt to add them to the mix.⁶⁶

The second document, sent from the G4 to Gale for staffing on 2 October, was a first stab at how the AFHQ would coordinate sustainment in theater. No one was sure about the timing, but eventually all three task forces, and their associated base areas, would be linked into one overarching theater distribution system. This would necessitate an overall SOS, which BG Hamblen argued should locate with AFHQ in Algiers to ensure that coalition priorities trumped service interests. The AFHQ administrative staff could enforce internal priorities and manage

⁶⁵ "Draft of Torch Supply Plan" 21 October 1942.

⁶⁶ "Assessment of AFHQ G4 Memorandum on Supply" 9 October 1942. Hughes to Gale. This document captured Hughes' thoughts on the draft concept of support for AFHQ operations written by the G4 section a week earlier. Hughes did not agree with the G4 plan that would use AFHQ as the coordinating authority for the three SOS organizations in North Africa. Hughes preferred to use the ETOUSA SOS in London to coordinate resupply to the theater. Hughes also disagreed with a system build around requisitions rather than pushing supplies based on historical consumption data. Communication infrastructure in North Africa would be insufficient, and requisition-based systems tended to be too slow; the command usually ended up meeting last month's priorities rather than addressing the current crisis.

items of common use among the Americans and British to address some shortfalls before ever having to engage either zone of the interior. Hamblen speculated that the earliest date when a theater SOS might be necessary was around D+45, or 25 December.

A trend in each major campaign conducted by the Allies between 1942 and 1944 was how the focus of the sustainment community would change throughout the operation. Logisticians could never rest on their laurels, and accelerating one step of the process tended to expose friction in another. Resources were limited; by shifting assets to solve one problem might trigger the development of two or three new ones. During the second half of October and the first two weeks of November the CAO conference was dominated by discussions about ships. The type of ships within each convoy, seaworthiness of individual vessels, progress in loading cargo, deadlines necessary to remain on schedule, and the priorities of cargo seemed to change daily, and this after significant portions of the staff had left for the theater. It got harder when enemy action knocked ships out of their convoy or sank slow transports with the loss of everything aboard.⁶⁷ Across the Atlantic the ASF shared their frustration. UG-2 through UG-4 had not gone smoothly; the average sailing lengthened out from 25 to 30 days with many ships leaving port with cargo space available.⁶⁸ If all ships had carried their maximum safe loads, they would have delivered 1,600,000 tons to the theater between October 1942 and early February 1943; the actual figure was 1,254,000 tons, or 20% below the initial estimate.⁶⁹ The heart of this problem with inefficiency was determining the priority for each convoy in a timely manner. Four organizations battled to decide exactly what would be loaded on the ships in New York: the ASF, the OPD within the War Department, the WTF SOS staff, and AFHQ. AFHQ priorities

⁶⁷ The AFHQ G1 briefed the loss of Allied warships and cargo vessels at the 10 November CAO Conference, along with incorrect information on the extent of damage to French ports, which he corrected the next day.

⁶⁸ Leighton and Coakley, 472.

⁶⁹ *Ibid*, 472.

changed as the tactical situation changed in Tunisia, while the ASF had to link production and stockpiles to inland transportation to how long it took to load a ship. To announce a deadline for changes to a manifest is one thing; to demonstrate the discipline to stick to that timeline is another. By the original plan the first four convoys should have transported equipment left behind by the assault wave, but new priorities kept jumping to the top of the list. Signal supplies, salvage gear, and material-handling equipment (such as cranes); new tanks for the British 6th AD; weapons for Free French forces; and essential supplies for the civilian population soaked up slots originally intended to move trucks and weapons left behind by the combat divisions.⁷⁰ Leaving this equipment behind in the first place had been a calculated risk; continuing to delay its arrival lengthened the window of risk Eisenhower was underwriting before he could establish a stable distribution network in theater.

The AFHQ in Combat

Torch was the first large-scale combat operation conducted by U.S. and U.K. joint forces. The chance of a quick victory by December was undone by a lack of sufficient power in the initial thrust into northern Tunisia. AFHQ and 1st Army had never developed an appreciation of what it would take to seize Tunis soon after the initial landings and how they should allocate resources across the various task forces accordingly. The British managed to project the equivalent of one division deep into Tunisia by the end of November, but this was not enough. Over time historians have emphasized the impact of bad weather on the Allied advance, suggesting that unsolvable logistical challenges contributed to, if they did not altogether cause, culmination just short of Bizerte and Tunis. But the truth is that Eisenhower and the AFHQ had

⁷⁰ Ibid, 472.

not managed to think beyond the first critical task, and Anderson had developed an insufficient plan when left to his own devices. The Allies lacked an appreciation of how air, ground, and logistics could interact to slow Axis reinforcement on the continent while winning the race to build up power in central Tunisia. They seemed to be mesmerized by improbable German cooperation with Spain or fierce French resistance while underappreciating the most logical Axis reaction. AFHQ failed to wield the full power of their joint command, and it could not coordinate a powerful air and ground thrust backed by sufficient service troops. The U.S. War Department either could not, or would not, help Eisenhower and Clark develop a more comprehensive and aggressive approach. A strong preference for avoiding risk at the War Department probably contributed to the conservative decision to put too many combat forces ashore around Casablanca at the expense of other landing sites or troop priorities. Once the initial Allied attack into Tunisia had culminated by mid-December 1942, the balance of the campaign conformed to a pattern that would repeat itself elsewhere for the next two and a half years. Constant pressure, in both the air and on the ground, would bleed Axis forces dry while the Allies built up their capacity in the theater and deployed new units into the line. Eventually Allied reinforcements, Axis attrition, and better U.S. tactical performance tipped the balance of power overwhelmingly in favor of a decisive Allied breakthrough. Failure in December inadvertently contributed to the development of AFHQ as an effective joint-combined operational headquarters that could blend combat and sustainment to defeat a dangerous opponent.

An Unanticipated Race for the Tunisian Ports

It only took about six days for the initial Allied timeline and scheme of maneuver to start breaking down. The speed and scope of the Axis reaction to the invasion seemed to catch everyone by surprise. On 9 and 10 November about two dozen German replacement battalions associated with Panzer Army Africa were airlifted into Tunisia and were joined by about a hundred aircraft. A major airlift commenced on 12 November, bringing in artillery, wheeled vehicles, supplies, and additional men. That same day, Walther Nehring assumed command of what would soon become the 90th Corps. By the end of November five divisions, including a panzer division, and major units of the *Luftwaffe* had repositioned to defend Tunisia. As a result, the CAO conference on 16 November introduced the need to shift American combat assets to reinforce 1st Army immediately, not after a 90-day preparatory period as first envisioned. The first concern of the conferees now was how to move ammunition and additional fuel to follow a brigade's worth of armor and field artillery already transferred from Oran to the Tunisian border. This included moving 2,000-gallon fuel wagons to ETF control.⁷¹

The 1st Army Lunge Towards Tunis Fails

The 1st Army had anticipated the need to move against Tunis and Bizerte sooner than originally planned, and it had options prepared for further amphibious landings and airdrops if necessary. The speed of the German reaction on 9 and 10 November quickly confirmed that these contingency plans were needed. The first step was to carry out a follow-on amphibious landing at Bougie 100 miles to the east of Algiers on 11 November. The next day commando and parachute troops secured Bône, another 125 miles closer to Tunis and Bizerte. Two-thirds of

⁷¹ CAO Conference Notes, 16 November.

the 78th Division had followed the Americans ashore at Algiers on 8 November, but they had done so with almost none of their organic heavy weapons and support vehicles.⁷² On 12 November the first reinforcing convoy landed the core of the British base organization for the theater, two sub-base commands and the line of communications headquarters. This convoy also delivered the advanced element of 1st Army command post, a regimental group of the 6th Armoured Division (Blade Force), a parachute battalion, and other combat enablers. On 14 and 15 November Anderson got elements of the 78th Infantry and 6th Armoured Division mounted up around Algiers and moving towards Tunisia to link up with Free French and Allied paratroops already in the country. The only way to motorize elements of the 78th Division was to attach port clearance truck companies from the Algiers sub-base. Fuel for wheeled and tracked vehicles would come from rail tankers rushed to the front by AFHQ.

Watching Axis reinforcements pour into northeastern Tunisia, AFHQ alerted three U.S. units to reinforce 78th Division between 15 and 24 November. An American artillery battalion, 175th FA from the 34th ID, was the first U.S. combat element directed to reinforce the British advance. On 15 November they were directed to get their thirty-five 2.5-ton trucks back from 168th RCT and to depart Constantine the following morning. They would join elements of the 78th Division three days later, somewhere between Le Fondouck and Souk Ahras.⁷³ The 175th FA were issued six days of rations, instructed to take as many fuel cans as they could carry, and to take 175 rounds per 105mm howitzer. The 1st Battalion of the 1st Armored Regiment, from CCB of the 1st Armored Division, was given similar instructions on 17 November. They would send their Stuart light tanks by train and would road march their wheeled vehicles from Oran to

⁷² Playfair, *The Destruction of Axis Forces in Africa*, 166. They landed in an assault configuration, the lightest of the pre-established movement categories. Follow on convoys would bring the equipment necessary to achieve the light and then heavy status.

⁷³ "War Diary of the 175 FA BN, 9 Nov 42 to 1 Mar 43", RG 407, NARA II. Entries on 15 November.

Le Kef starting on 18 November to join Blade Force approximately a week later.⁷⁴ The balance of CCB was directed to follow on 24 November and act as the 1st Army reserve during the advance on Tunis.⁷⁵

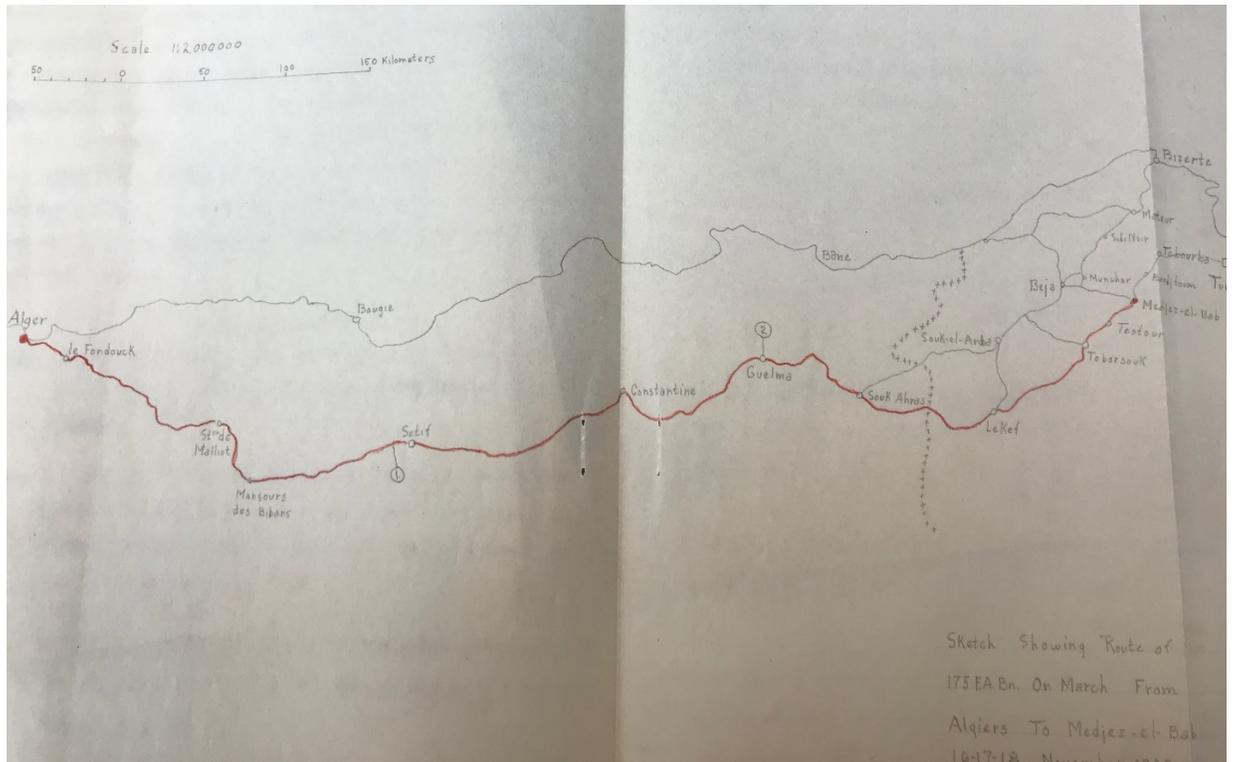


Figure 2.2: Route of 175th FA BN from Algiers to Tunisia, 16-18 Nov 42

These long-distance road marches went remarkably well. The 175th FA battalion made the journey in three days, averaging about 130 miles a day with no trucks lost to combat, accident, or mechanical breakdown.⁷⁶ The light tank battalion from 1st Armored Regiment managed to unite tracks, trucks, and personnel and advance to link up with Blade Force at Beja on 24 November. CCB arrived at Medjez el Bab late on 29 November. All three units reported

⁷⁴ “First Battalion, First Armored Regiment’s Participation in the Beginning of the North African Campaign”, 31 December 1942. 1-1 AR, 1st AD, RG 407, NARA II, 59.

⁷⁵ “S3 Journal 8 Nov 42 – 1 Jun 43”, CCB, 1st AD, RG 407, NARA II, 6.

⁷⁶ “War Diary” 175 FA BN, 9 Nov to 1 March 43, 175th FA BN, 34th ID, RG 407, NARA II, entries for 16 to 18 November. The battalion covered 190 miles on the first day, and 154 miles on 17 November. The distance covered on 18 November is not provided, but they did not arrive at Souk Ahras until late in the evening.

rain, snow, narrow roads, and numerous broken-down British trucks along the route. In all three units the first report of enemy contact was from air attack, usually before they had managed to link up with their local British guides. CCB's first casualties of the campaign came in the 13th Armored Regiment on 1 December when both the combat command and regimental CPs were strafed by Me 109s. At no point did the unit logs mention a problem with resupply or transportation during the move to Tunisia.

Meanwhile, the British had continued to push into Tunisia, with the base at Bône up and running on 18 November and the first trains arriving at Souk el Arba (40 miles to the northeast of Souk Ahras) two days later.⁷⁷ British 1st Army had a line of communications supported by military coastal shipping and trains delivering supplies within 100 miles of front-line troops by 21 November. Coastal shipping did not provide the hauling capacity planners had hoped for, and the operation suffered from a series of sinkings, bad record keeping, theft, and unanticipated requirements.⁷⁸ Rail service was actually restored sooner than anticipated, but because military operators and line mechanics arrived on later convoys, 1st Army was forced to rely on the poorly equipped civilians employed by the Vichy government. It was during this same time that the task force built around the 78th Division began to bump into Axis columns advancing to the west from Bizerte and Tunis, where a frontline running from Sidi Nsir to Medjez el Bab began to stabilize. For the next four weeks Allied air and ground strength in Tunisia steadily increased, but this was matched by equal increases in German and Italian formations. The five weeks lasting from 17 November to 24 December were marked by alternating small-scale attacks as each side received a few new battalions at the front, shipments of ammunition and replacement

⁷⁷ Playfair, *The Destruction of the Axis Forces in Africa*, 175.

⁷⁸ Carter and Kann, 20.

equipment, or increased air support. But in each case these localized offensives ground to a halt after a few days as casualties mounted and reserve supply stocks dwindled. Neither side could amass enough power to punch through the lines and exploit local breakthroughs.

Eisenhower blamed the breakdown of the Allied offensive at the end of December on bad weather and rising enemy air and ground strength and to some degree on logistical shortfalls.⁷⁹ Logistics had not stopped the offensive, but transportation difficulties would slow down efforts to return to the attack. The key issue was the limited capacity of the long-range distribution network linking Casablanca, Oran, and Algiers with Souk Ahras.⁸⁰ In some cases the network could have handled more traffic if 1st Army had sufficient headquarters to supervise the effort. Staff officers discovered 100 loaded but abandoned wagons at Souk Ahras near the end of November; no one knew the cars were there, much less assigned manpower to unload them.⁸¹ The first task given to the staff officers from 5th Corps upon their arrival on 26 November was to establish a communications network that could link together the logistics and transportation nodes scattered throughout the rear area. Once completed, this allowed the Corps to centrally control the issuance of movement instructions for each train, truck convoy, and ship, to ensure they did not gum up choke points and that manpower was ready to unload them immediately upon their arrival at the final destination. It took the Corps until 3 December to clear up the snags they had inherited from 1st Army. A shortage of transportation resources, combined with mismanagement of what was available, forced the Allies to pick among adequately sustaining the

⁷⁹ Howe, 343-4.

⁸⁰ "AFHQ Summary of Information for Administrative and Special Staff" 28 November 1942. The 78th Division continued to advance toward Tunis/Bizerte, but the "Maintenance problems of the above forces are acute owing to the length of the L of C and owing to some need for sharing facilities for movement of French stores and troops." Box I-2, ESHP.

⁸¹ Carter and Kann, 24.

forces already in Tunisia, building up reserves of equipment and supplies near the front, or shifting large U.S. formations from Morocco and Algeria to join the fight.

The various battalion and regimental battle groups fighting in Tunisia in November and December received enough supplies and replacement equipment to remain effective in a punishing environment. The history and war diary for the 175th FA BN show several instances when they fired almost all of the ammunition available, also lost guns in combat, but were then resupplied immediately and provided with new 105mm howitzers within a matter of days.⁸² The battalion received logistical support from British units until 1 December, when CCB picked up responsibilities for all items except ammunition, which continued to flow through the British 5th Corps. Both 1-1 AR and CCB experienced the same heavy combat while receiving reliable support from British service units during the last week of November through mid-December. In an action on 2 December, 2-13 AR was reduced to nine operational tanks and very little ammunition, and they were concerned about their fuel situation; four days later 1-6 IN was almost wiped out by a well-executed Axis combined-arms attack.⁸³ Despite these casualties, CCB remained in the line and continued to receive supplies from the British that sustained their fighting potential. On 5 December British trucks arrived with 60 armored crewmen replacements and the next day they delivered a stock of anti-tank mines and 105mm field artillery ammunition. The British logistics system worked, despite the unexpected burden of supporting U.S. units and heavy losses of men and equipment to combat.

⁸² "War Diary" and "From Beer Beach to Kasserine Pass – The Story of the 175th FA Bn," 175 FA BN, 34th ID, RG 407, NARA II. The battalion ran low on ammunition on 20 November but was resupplied in time to fire a 15-minute preparatory barrage on 25 November. On 10 December one battery was forced to conduct an emergency resupply from a nearby ammunition bump and A Battery lost three of their four guns to enemy fire. The battery was back to full strength a few days later. The battalion suffered fifteen battle casualties between 19 November and 21 December.

⁸³ "S3 Journal 8 Nov 42 – 1 Jun 43," CCB, 1AD, RG 407, NARA II. Entries for 2 and 6 December.

The CCB's focus for 8 and 9 December was vehicle recovery and repair and by 15 December the various elements of CCB had been worn down to the point that the unit was pulled back into V Corps reserve. Tank losses had been severe, and instructions went out to consolidate the remaining Stuart light tanks in 1-13 AR, sending 1-1 AR and 2-13 AR back to Oran to draw replacement equipment. While working for Blade Force, CCB, and then the 1st Guards Brigade over a three-week span, 1-1 AR suffered 22 KIA, 37 WIA, and 47 MIA, or approximately 30% of its authorized strength.⁸⁴ Losses in the other two light tank battalions of the 13th Regiment were equally severe.⁸⁵ The first battalion of the 1st Armored Regiment was effectively eliminated from the Allied order of battle, and CCB would be used in a limited role for the remainder of the campaign based on these losses in men and equipment. But in a final analysis, the Allied attempt to push the Axis out of northern Tunisia was stopped by German and Italian battle groups – not by the weather, supply difficulties, or air attack. Allied armor, infantry, and field artillery units had adequate fuel, ammunition, and replacements to remain effective after weeks of anything but the most devastating combat. And when a battalion or brigade was mauled beyond repair there were plenty of new organizations already in North Africa to take their place on the line. The British 1st Army culminated just short of overrunning northern Tunisia because it could not mass enough combat units to penetrate or overwhelm the Axis defensive line. As a result, AFHQ would have to try a new approach; by late December it was obvious that the lunge to Tunis had failed.

⁸⁴ “First Battalion, First Armored Regiment’s Participation in the Beginning of the North African Campaign”, 31 December 1942. 1-1 AR, 1st AD, RG 407, NARA II. Casualties are listed in the last two pages of the report.

⁸⁵ Howe, 333-4, footnote 36 and 38. Two battalions had about 33% of their tanks operational by late December. 1-13 AR was down to about 12%.

Establishing AFHQ in Algiers

Allied direction of this early phase of the campaign was complicated by the need to close the AFHQ's rear command post in London and then to deploy to Algiers onboard convoy KMF-4. Between 23 and 30 November AFHQ staff worked with their ETOUSA counterparts to ensure that the Americans understood how to coordinate among all the critical players in London and Washington. On 30 November BG Baker (the G3 for ETOUSA) took over as chair of the AFHQ Rear CAO conference, a meeting that ETOUSA hosted through 19 December. The lack of driving purpose to the meeting was immediately obvious – ETOUSA was not in touch with the right agencies within ASF, AFHQ, and the three task forces. ETOUSA struggled to identify what critical problems they should tackle, and the meeting notes degenerated to calling attention to cables coming out of AFHQ forward, procedures for handling routine business within the new CAO working group, and an early attempt to cut back from six to three meetings weekly.⁸⁶ ETOUSA quickly became a spectator rather than a problem-solving organization, a development that did not bode well for operations in the future.

Gale and the core of his administrative team arrived in Algiers on 7 December and “On reporting to AFHQ [I] saw General Eisenhower. He told me of the maintenance difficulties which 1st Army had got into owing to congestion on the railways and lack of transport to clear trains.”⁸⁷ Here was task one for AFHQ to solve, despite the fact that the problem technically belonged to 1st Army. Gale called Brigadier Benoy, the chief administrative officer in 1st Army, that same evening to begin the coordination process. By 9 December it had been decided that COL Frank Ross would head up a team of technical experts that would focus on traffic control

⁸⁶ CAO Conference Notes, 30 November to 19 December. To their credit, ETOUSA gave up on the idea of cutting back to three meetings a week only three days after mentioning it.

⁸⁷ Gale's Official War Diary, 7 Dec 42.

between Algiers and the front lines, while Gale assembled a scratch theater logistics staff using AFHQ and 1st Army personnel available in country.⁸⁸ As soon as he felt comfortable that his staff could handle routine events, Gale toured the combat zone and rear area between 11 and 14 December.⁸⁹

A shortage of transportation was the number one problem facing the logisticians, and since they could not generate more trucks or trains, it became imperative to maximize the value of the resources they did have. Gale announced AFHQ would chair a daily priority of movements (POM) meeting beginning on 14 December; G-4 Movement and Transportation would run the session and G-3, G-4, the naval command, air staff, and 1st Army were directed to send representatives.⁹⁰ This meeting helped the group realize that 1st Army was being overwhelmed with unanticipated support requests from the two air forces and U.S. units attached to 78th and 6th Divisions. Eastern Air Force needed 446 tons of supplies every day, and two-thirds of this weight had to be carried by trucks, with the rest travelling by coastal barge; the U.S. 12th Air Force added another 557 tons of requests daily.⁹¹ Gale's solution was simple – Benoy needed a POM of his own, and he was authorized to tell the air component “no”. AFHQ had foreseen the need to maintain a powerful air element in North Africa, but not so close to the front lines. Because of the powerful response by the German *Luftwaffe*, Allied fighters needed to be as close to the front lines as possible, placing a painful drain on 1st Army's transportation resources.⁹² Adding half-a-dozen U.S. battalions to 1st Army gave the advance more punch, but

⁸⁸ CAO NA No 1, 9 Dec 42. Gale Papers, Liddell Hart Center. Most of the AFHQ administrative staff were traveling by ship from London to Algiers in early December.

⁸⁹ Gale Official War Diary, 11 to 15 Dec, 42.

⁹⁰ CAO NA 13 Dec 42. Gale Papers, Liddell Hart Center.

⁹¹ CAO NA, 15 Dec 42.

⁹² Gale's Official War Diary, 17 Dec 42. Gale admits AFHQ had been surprised by the duration, intensity, and scope of German resistance in the air.

added to the drain on transportation. On 22 December 1st Army reported it was logistically supporting 300,000 men, almost three times the strength they had planned on at this stage of the campaign.⁹³

By 22 December Ross thought he had worked out the procedural problems that had limited Allied exploitation of the rail lines; after this date the limiting factor was rolling stock and coal.⁹⁴ To help offset rail shortages, the AFHQ staff partnered with 1st Army to try to mass truck assets and get a shuttle system running from Oran to the combat zone base area.⁹⁵ Similar to what had been discovered at the end of November with 1st Army management of the rail network, Gale found that the two officers in charge of the movement section needed help. During a visit to 1st Army on 15 December, Gale worked with LTCs Curwin and Pole to rationalize their movement control procedures. That evening Gale recorded that during the visit he:

Went thoroughly into [their] situation and found main troubles were due to lack of proper Movement control organization. Telephoned AFHQ and told DQMG Movements to set up 'Freedom Advance Movements' directly under AFHQ to be located at Constantine....Impressed upon AQMG need for strict control of dispatches; advices of trains moving must be promptly sent and no trains should proceed to railhead unless 5 Corps were in position to clear it. These arrangements produced immediate results in the next 24 hours.⁹⁶

Gale was following the principles from *The Manual of Movement* and demonstrating the leadership demanded of senior logisticians. The only way to fix 1st Army's problems was for AFHQ to help – they had the knowledge and resources to set up the required control points and then link them together with communications gear. Gale was far from a micro-manager; he

⁹³ CAO NA 22 Dec 42.

⁹⁴ Gale's Official War Diary, 22 Dec 42.

⁹⁵ CAO NA No 12 and 13, 20 and 22 December. Upon relocation to North Africa, Gale announced the new title and numbering system. This is also the point at which each issue discussed was assigned a number and tracked by that number until it was resolved or became irrelevant.

⁹⁶ Gale's Official War Diary, 22 Dec 42.

preferred to establish and chair a comprehensive array of boards informed by well-written staff papers focused on decisions that needed to be made far into the future.⁹⁷ But he was also not above roaming the battlefield in order to find pressing problems, and then taking decisive action to fix them, and directed trusted subordinates such as Ross and de Rhe Philipe to do the same.⁹⁸ Senior British logisticians were also comfortable relieving officers that could not handle their duties; Brigadier Gough, the commander of No. 4 Base Area, was relieved on 28 December after Gale, Anderson, and Brigadier Pinder, the General Officer Commanding (GOC) of the L of C, agreed he had to go.

As AFHQ staff arrived from London, Gale filled up his existing staff sections and created new ones. On 19 December a combined logistics plans section was formalized, joined by a quartermaster maintenance section (the British equivalent of the U.S. ordnance service section) on 1 January. Upon his arrival in Algiers, Gale had decided that he needed to increase his long-range logistics planning section, adding Joint and U.S. members, in order to contextualize the implications of decisions at the operational level, asking General Smith to authorize the new positions. Smith was concerned with the growth of new staff sections; Gale assured him that the logistics planning section belonged to and would be supervised by the AFHQ G-4. In reality, they would answer directly to Gale.⁹⁹ Gale won the round with Smith, but it would take the enlarged plans section about twenty days to get its legs under them. Gale suspected their staff

⁹⁷ After sitting through the North African Economic Board on 20 December, Gale wrote the following comment in his diary: "Meeting too big – time has come to arrange proper Board Meetings with specifically prepared papers submitted to it." Gale's Official War Diary, 20 Dec 42.

⁹⁸ Gale's Official War Diary, 23 and 27 Dec 42. Gale visited L of C on 23 December and had Rhe Philipe investigate Bone on 27 December. Rhe Philipe returned with a recommendation to sack the commander of the dock company there, LTC Russell.

⁹⁹ Exchange of memos between GEN Smith and General Gale, 19 and 20 December 1942. CAO File, AFHQ, RG 331, NARA II.

estimates would be essential to getting the campaign back on track after the temporary tactical setbacks in mid-December.

Instructions to shift the balance of three American divisions that were available in the eastern and central task forces forward into Tunisia had made their way from AFHQ in mid-December, instructions that had not been run past Gale and the G-4 section. When they got wind of these developments, the CAO typically could demonstrate that the transportation network could not move them as quickly as planned, nor could it sustain them once they arrived in Tunisia. On 28 December Gale met with General Anderson and NCXF to plan out the next stage of the campaign, trying to match movement and supply priorities against how the maneuver commanders wanted to proceed. The drain on transportation needed to support the air component continued to limit options; at this point the air units were consuming 66% of the rail capacity east of Algiers.¹⁰⁰ But as a result of this meeting, AFHQ issued revised movement instructions on 28 and 29 December that included the transfer of large U.S. units into Tunisia, along with the supplies required for a new offensive at the end of January.¹⁰¹ This directed build-up would be tracked through a periodic progress report to be briefed at the CAO meeting starting on 29 December.

Once again Gale was confronted by the challenge of expanding the volume of material that the transportation network could process daily, both by adding resources and running things more efficiently. The theater engineer announced the start of a project to build a fuel pipeline from Algiers to the western edge of the 1st Army boundary using French labor and local materials.¹⁰² The air wings and motorized formations employed by the Allies would require

¹⁰⁰ Gale's Official War Diary, 28 Dec 42.

¹⁰¹ Ibid, 29 Dec 42.

¹⁰² CAO NA 29 December.

thousands of tons of fuel a day. Further efforts to rationalize the entire administrative structure needed to sustain a much larger force in the Tunisian hinterland soon followed. The logistics staff at 1st Army implied that they did not understand their relationship with the U.S. II Corps and the Free French XIX Corps when it came to tracking, requisitioning, and moving their supplies, nor did they see where the AFHQ, Mediterranean Base Section (MBS), and American Army Air Force fit into the logistics process.¹⁰³ To address these emerging issues, AFHQ decided to centralize management of the various sustainment organizations under their direct control. On 30 December the Atlantic Base Section (ABS) and MBS were detached from the western task force and II Corps and directed to work with the joint theater staff. The 1st Line of Communications command was detached from 1st Army and assigned to AFHQ the next day, with Gale given command authority over MG J.C.W. Clark, the 1st LOC GOC.¹⁰⁴ Although directed to coordinate directly with AFHQ, MBS was responsible for coordinating all logical support to U.S. units assigned to or operating in the 1st Army footprint.¹⁰⁵

Whatever problems the Allies were having with command and control, distribution, and supplies reaching the front, 5th Corps of the 1st Army continued to launch local offensives during the first half of January, and the U.S. II Corps was busy filling up dumps to sustain a major attack of their own projected to open at the end of the month. 5th Corps made little progress in two attacks conducted on 5 to 7 January and 11 to 13 January, running into Axis reserves that launched immediate counterattacks of their own. Regardless of these setbacks, the official British history of the campaign noted that, when AFHQ assumed overall direction of

¹⁰³ CAO NA 4 and 5 December.

¹⁰⁴ History of AFHQ, 175.

¹⁰⁵ AFHQ GO 38, 30 December 1942. The next day GO 39 eliminated the eastern task force and provided an overlay depicting boundaries for the 1st Army, 1st Line of Communications, and all British base areas. Bone and Constantine remained in the 1st Army area while everything to the west transitioned to 1 LoC authority.

administrative support to the front from 1st Army on 1 January, the general logistics situation was in good shape. New Churchill and replacement Sherman tanks were flowing into the U.K. armored and tank brigades, 17-pounder guns and 7.2-inch howitzers were being integrated in anti-tank and artillery units, and new formations continued to land at Algiers and move up to join 1st Army in Tunisia.¹⁰⁶ Admittedly, the chief admin officer of 1st Army, Brigadier Benoy, complained as late as 9 January that the U.S. Army continued to pack new units into the army area without providing service units or transport to support them.¹⁰⁷ Sustainment in Tunisia was not easy and some shortages existed, but clearly there was no supply or distribution crisis in early January for the units already in the country.

Petroleum and ammunition rapidly emerged as the two critical and bulky resources driving the pace of Allied operations. As was the case with most supplies, distribution and not availability presented the most important challenge. The Allied inventory and assessment as of 11 January 1943 is captured in the table below:

| | 100 Octane | 87 Oct | 75 Oct | DERV (diesel) |
|---------------------------------|------------|--------|--------|---------------|
| O/H | 22,492 | 770 | 17,509 | 847 |
| Average Daily Port Discharge | 2,730 | 50 | 4,350 | 50 |
| Daily Consumption (Max to date) | 541 | 27 | 597 | 81 |

Table 2.1: Major POL types on hand, 11 Jan 43, in tons

The report noted that there were three items of special concern – diesel, aviation oil SAE 120, and hypoid 90 gear lubricant. The AFHQ G-4 was monitoring consumption and working to increase resupply of these items from the U.K and U.S.¹⁰⁸ As was commonly the case, items

¹⁰⁶ Playfair, *The Destruction of Axis Forces in Africa*, 273.

¹⁰⁷ Gale's *Official War Diary*, 9 Jan 43.

¹⁰⁸ Theater POL Report, 11 Jan 43. G-4, AFHQ, RG 331, NARA II.

used by only a very small percentage of the force emerged as the shortages that might negatively impact Allied freedom of action.

AFHQ and 1st Army quickly learned how to improvise a requisition process and get the distribution network to prove the essentials, but the harder battle was to meter the flow of new forces into Tunisia in a deliberate and balanced manner. It seemed that each time Gale and his associated figured out how to make the logistics chain work, someone complicated the problem by trying to pack more combat forces into the combat zone.

Teaching Eisenhower to Listen to His Logisticians

Gale's frustration with his boss boiled over after Eisenhower hosted a major commanders' conference on 10 January at Constantine to which he and General Smith were not invited. His diary entry that evening captured why Gale found the development so frustrating. "Receiving disturbing information that decisions taken at the CINC's conference yesterday concerning future operations may have Logistical implications which are impossible of achievement. As I was not invited to the Conference, I did not have an opportunity to express an opinion. I am, however, putting it on paper to the CoS."¹⁰⁹ For the first time, Gale's creation of a joint, combined logistics planning element at AFHQ was about to demonstrate its value.

On 12 January Gale shared a copy of a draft of their first comprehensive assessment with the Chief of Staff. The log plans section, headed by LTC Dalton, published two documents in January that were essential to the process of bringing clarity to the nature of the distribution challenge and its impact on maneuver options. LTC Dalton's team published their first comprehensive logistics assessment on 26 January 1943, supported by a transportation and

¹⁰⁹ Gale's Official War Diary, 11 Jan 43.

distribution fact sheet that had been distributed earlier. Both documents provided the first evidence of an overarching administrative appreciation that had been missing at AFHQ since its inception and provided insightful bookends to the AFHQ staff process before and after Casablanca. Smith found the draft of these products so compelling that he ordered Gale to send a representative he trusted to explain these facts to Fredendall, Benoy, and Hamblen (the G-4 of AFHQ) at Constantine on 12 January, and get the campaign plan back on track.¹¹⁰ Gale selected Brigadier A.T. de Rhe Philipe for the mission, who returned triumphant on 14 January. De Rhe Philipe convinced everyone that they had gotten ahead of themselves, but that it was not too late to salvage the overall concept. The group agreed that II Corps might still launch an attack in late January on the southern end of the 1st Army line if AFHQ could mass 240 trucks, or about five British companies, to move 720 tons of supplies a day over the next two weeks.¹¹¹ But only three days after Gale had figured out how to enable Eisenhower's concept, General Alexander, the CINC of the British Middle Eastern Command, visited AFHQ and convinced Eisenhower to call off the II Corps attack.¹¹² Despite this decision, the effort to move combat forces and establish supply depots continued. The next day maneuver commanders in Tunisia were still calling for more forces than could be sustained, but now Gale was in the room, and Eisenhower was listening to his advice.¹¹³

It is helpful to examine in detail the staff product that helped Gale make his point with Eisenhower. The draft was released from the log plans section on 12 January, and its final version finished on 26 January. The assessment, entitled "Maintenance of Troops East of

¹¹⁰ Ibid, 12 Jan 43.

¹¹¹ Gale's Official War Diary, 14 Jan 43.

¹¹² Ibid, 17 Jan 43. Gale wrote: "This in some ways is a pity, as it means several more weeks' inactivity whereas I think what this theater wants is some fighting."

¹¹³ Ibid, 18 Jan 43.

Algiers FEB/MAR 43,” was well organized and succinct, and it made the need for some tough command-level decisions crystal clear.¹¹⁴ Based on projections for late February, combat forces in Tunisia would need 3,700 tons of supplies a day to operate, discounting any desire to build up reserve stocks.¹¹⁵ By mid-March port discharge would reach 12,000 tons daily, with an additional 300 tons shuttled to La Calle; distribution and not discharge would be the limiting factor. Rail lines could move 2,200 tons out of Algiers daily, and this was only about half of what the lines could handle if more rolling stock, repair parts for French engines, and U.S. operators could be provided. This would be supplemented by two new GT companies anticipated in early February that would provide an additional 1,400 tons of daily lift from the port to the 1st Army depots around Souk Ahras. British engineers were working on a dual-pipe POL line from Algiers and Bône to the front, but this would not be up and running until April.

The bottom line was that the Allies could sustain the projected footprint in Tunisia by early February, and by mid-March there would be a surplus of lift that could be used to either move the equivalent of four more divisions into the line, build up reserve stocks of supplies, or shift air units closer to the front. Just before Eisenhower left for the Casablanca conference his staff managed to clearly explain, in writing so it could be shared with a mass audience, the limitations of his line of communication between Algiers and the 1st Army rear area. Upon his return they had a more useful tool to assist in the process of extracting guidance on how to prioritize the use of the transportation that was available. The formation of a competent logistics planning cell was a significant improvement to the AFHQ staff that practically demanded leaders to begin thinking at the operational level.

¹¹⁴ Logistics Plans Section Files, AFHQ, RG 331, NARA II.

¹¹⁵ The break down by major formation was 1st Army – 1,350 tons; II Corps – 685 tons; Allied Air Forces – 850 tons. The balance of the requirement was for the LoC units, French formations, and civilian relief.

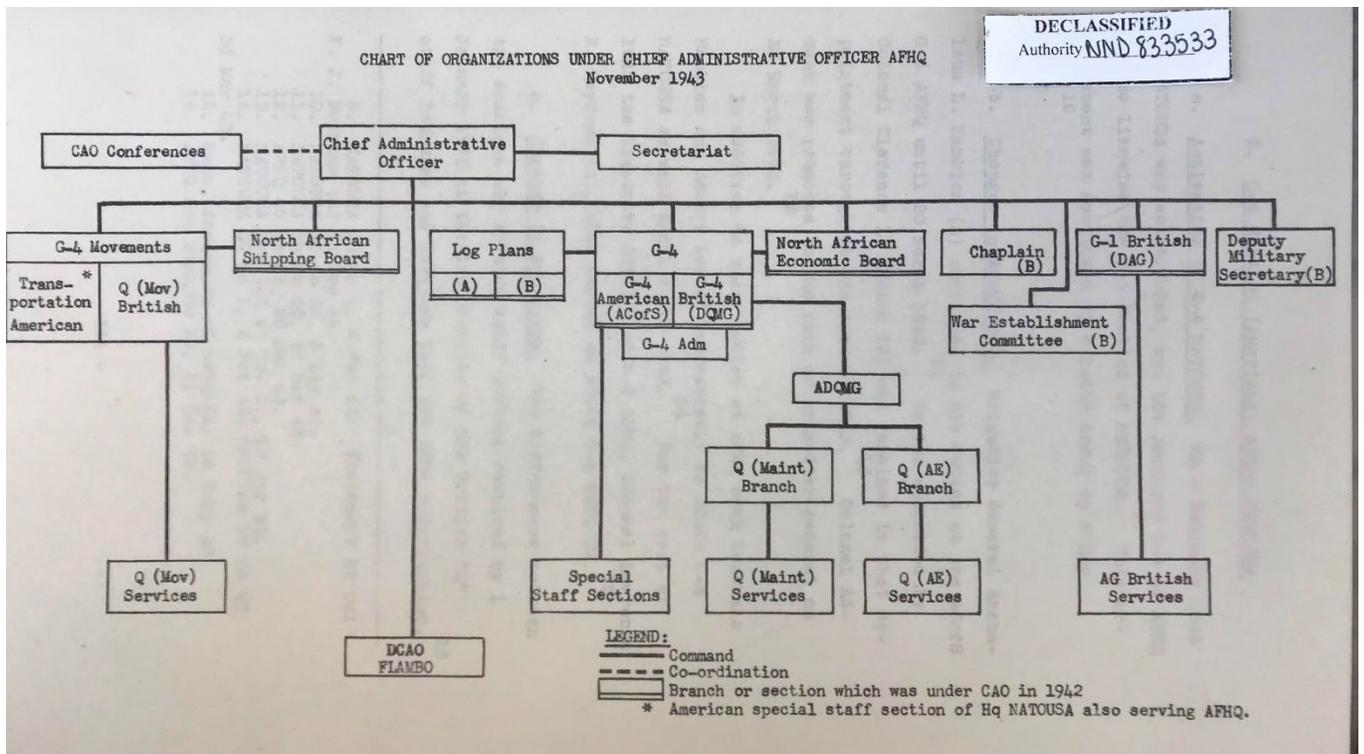


Figure 2.3: Staff sections supervised by the AFHQ CAO, Nov 43

By mid-February the AFHQ logistics staff had come a long way. Gale had not been terribly impressed with the U.S. staff officers he had come into contact with at the headquarters, at least initially. He was disgusted that the American logisticians that had been present for the 10 January 1943 commanders' conference at Constantine had not spoken up and pointed out how the plan for a late-January offensive by II Corps was not possible as conceived. His frustration with Hamblen boiled over on 3 February – he recorded in his diary that evening that he had shared his opinion that “the G-4 section was not professionally led” despite over three months of exposure to combat under the tutelage of very experienced British officers.¹¹⁶ Gale had always been conscious of need for British officers to help train their U.S. counterparts, but to do so with such a light touch that no resentment was created. To this end he had gathered all the British

¹¹⁶ Gale's Official War Diary, 3 Feb 43.

colonels and brigadiers assigned to AFHQ on 6 February and had given them a pep talk. Gale shared with the audience his feeling that they must “assist the U.S. staff in every way possible, without appearing to do so” for the long-term health of AFHQ, the campaign in North Africa, and Allied relations.¹¹⁷ By this point Gale thought he had successfully merged the groups of officers into an effective combined team, and was well on his way to teaching them how to do their job. He had also convinced Eisenhower and his subordinate commanders that the logisticians needed to be in the room before, during, and after major decisions were made about the direction of the campaign.

Figuring out Procedures and Getting the LoC Up and Running

During the first month that AFHQ was in charge of theater logistics, keeping everyone up to date on the latest changes to the administrative procedures had proven to be as difficult as developing the solution itself. On 12 January the command discovered that both the ordnance service section and the G3 section were transmitting ammunition requests back to London – Gale directed the G3 to get out of the resupply business. A few days later it was reported that despite the publication of numerous memos on the subject, members of the staff and subordinate commands were still confused about the distribution of responsibility for logistical support among the various actors.¹¹⁸ This confusion persisted despite a flurry of instructions from AFHQ. Even the wholesale changes to the command structure executed in February did not solve the problem. Meanwhile, BG Lewis, the British G4 at AFHQ, continued to share the sense of confusion about exactly how his superiors wanted the supply arrangements to function.

¹¹⁷ Ibid, 6 Feb 43.

¹¹⁸ CAO NA 16 and 18 Jan 43. Gale confirmed that he continued to get questions from senior officers in the field, and that he would discuss the issue at the commanders’ conference on 18 January.

General Gale's guidance to the CAO coordination group on 27 January provided insight into the real cause of confusion between the 1st Army staff and AFHQ that had hampered coordination off and on since the end of December. One can infer from Gale's comments that the real issue was not confusion at all but disagreement over who should establish stockage priorities and procedures for the technical services and branches.¹¹⁹

This was the same debate with which ETOUSA had been wrestling since May 1942 and which AFHQ had decided in November.¹²⁰ In some places the instructions were confusing, and doubtlessly some officers had not read the original document, but in general the problem was disagreement and not confusion. This debate over who would control logistical priorities and directly supervise the technical service sections was never really solved during the war and generated a lot of frustration as a result. Because Marshall's and Somervell's preferences were never captured in doctrine or instructions that reconciled the coexistence of joint, combined, and U.S.-only theater-level commands, it remained a distraction that refused to go away.

Gale promised the group that he would investigate various concerns over distribution that had been reported to the G4 staff. He was due to visit the line of communications headquarters at Setif (a British organization with a decidedly Allied composition by this point) the next day, and it would be a perfect opportunity to get to the root of the problem. The outcome of this fact-finding trip was an expansion of the AFHQ weekly movement prioritization board, a daily meeting that had started up on 13 December, to include more representatives from L of C Area

¹¹⁹ CAO NA 27 Jan 43. Obviously, Gale's answer was the AFHQ staff, who in theory understood the entire theater and joint picture, as opposed to 1st Army, who only had details on the ground and U.S. air situation in the combat zone. Based on reports from U.S. organizations within 1st Army submitted after the campaign, and the conclusions of the AFHQ official history, AFHQ was insufficiently aware of current conditions within 1st Army to manage three base areas and the line of communications to deliver the supplies that were available in a proactive manner.

¹²⁰ Draft AFHQ G4 memorandum on supply, 2 October 1942. Copy in Box I-6, ESHP.

command and its subordinate organizations.¹²¹ The meeting had proved to be particularly helpful and Gale continued to add representatives for new units, headquarters, and staff sections as AFHQ continued to grow over the winter. Gale also decided to establish a POL section in the G-4 staff at AFHQ and to hold a weekly prioritization meeting for fuel that resembled the movement meeting. Although it seems obvious in hindsight, this was a novel concept for units in combat. All the key players would assemble face-to-face and prioritize delivery of supplies, equipment, and units to the combat zone with the same appreciation of what transport was available, what the rest of the joint team felt was critical to sustain the fight, and the opportunity costs associated with each win for their own requests. It was an essential bureaucratic and procedural breakthrough well suited to making informed decisions and eliminating animosity and rumor-spreading when one organization did not get its way with the AFHQ or COMZ staff. While arguably inefficient, the meeting forced AFHQ and its major subordinates to make decisions publicly, allowing each organization to have its say, and then to prioritize transportation resources with a complete understanding of everyone's desires and of the way more for one resulted in less for everyone else. It was one thing to find out that you would not be getting everything you wanted, but it was a completely different proposition to discover that you would not get all the fuel that you had asked for so that the Air Force could protect you from enemy bombers. AFHQ was learning that a system based on compromise and consensus was a better way to run a theater consisting of loosely coupled services and national forces than dictatorial use of authority held by the command. The Allies were discovering that the only way to accomplish several priorities simultaneously was through face-to-face negotiation. Similar

¹²¹ LTG Humfrey Gale Official War Diary, 13 Dec 42. Collection II, items 1-13. Liddell Hart Centre for Military Archives, King's College, London. CAO NA 30 January 43.

boards and processes had already been developed at the policy and strategic level, but now the AFHQ was realizing that they were necessary at the operational and tactical levels as well.

Looking at exactly how AFHQ ran one of their meetings to coordinate transportation helps illuminate the complexity of the process of inland distribution, the challenging level of detail and knowledge necessary to make smart decisions, and the interrelated nature of each aspect of the problem. The AFHQ G-4 Movement and Transportation division ran a daily meeting that lasted from thirty to sixty minutes at 1630 daily. The chairman of the meeting followed a standard procedure at each session: staff sections and subordinate units submitted bids to move new units to the front by road, these new bids were ranked in priority order, units made bids to use a portions of the daily rail capacity, and, finally, units confirmed that there were no changes to the movement plans approved at recent meetings.¹²² The time-scale was different for each category; ship movements had to be considered months in advance, while rail and road movements focused on the next five to eight days. The flow of new units and cargo was relatively fixed; the group confirmed and acknowledged what was scheduled to arrive in the next week and placed bids for changes or additions with the understanding that they could only influence convoys well into the future. The rail and road review produced a movement manifest tracking the unit (often down to the company level), the number of passengers, vehicles, tonnage, the number and type of wagons assigned, departure and arrival location, and the “sponsor” of the movement, which was usually a general staff section from AFHQ but might also include one of the primary subordinate organizations. New requests for rail or road movement were framed by a general set of guidelines that helped quickly establish their relative merit. Depending on the

¹²² “AFHQ Priority of Movements Meeting,” 6 January 1943, G-4 M&T File, AFHQ, RG 331, NARA II. Notes from the meeting captured the fact that this was the twenty-fifth iteration of the meeting in North Africa.

overall command priorities for that particular stage of the campaign, some staff sections, subordinate units, and particular capabilities automatically rose to the top of the list. As an example, any requests sponsored by the G-4 (Movement) section, submitted by the L of C Area command, or associated with moving Spitfire fighter squadrons into Tunisia were automatically moved to the front of the line. The board would then determine the relative worth between those three requests at the daily meeting. It was a remarkably sophisticated and effective system, at least for deciding what got to move to the front; Gale deliberately ensured that the meeting driven by the G-4 M&T organization, which was predominantly manned by British officers.¹²³

Clearing the Ports

As AFHQ's assumed direct responsibility for managing the theater rear area in late December and early January, it allowed the staff to better understand and take steps to fix the real issues that had been holding up resupply across the theater. The most important issue, after inland distribution, was an overall shortage of service units available in the U.S. Army by November 1942, coupled with disagreements over what percentage of those troops should be deployed to North Africa. The CTF and ETF embarked 8,500 service troops in Great Britain on the assault convoy, or about 18% of their overall strength, leaving 31,700 support personnel behind.¹²⁴ Throughout the duration of the North African campaign between 32,000 and 36,000 service troops remained behind in the United Kingdom. The decision to shortchange the deployment of logistics equipment and service troops to North Africa during the first three

¹²³ When the AFHQ staff was first formed, the U.S. G-4 had no responsibilities associated with transportation and distribution, but the British system held their G-4 accountable for requirements and distribution. Gale thus formed a combined G-4 section responsible for requirements while using a British M&T division to manage transportation. As the U.S. transportation special staff section at AFHQ grew in size, experience, and influence, they were merged with the British G-4 M&T division. See the AFHQ History, Part One and Two.

¹²⁴ Ruppenthal, Vol I, 99.

months of the campaign made everything the Allies attempted in moving supplies that much harder.

British 1st Army had prioritized two rear-area missions and assigned service troops accordingly. The first was port clearance – unloading ships and moving the supplies to depots in the local area – all managed by the regional sub-base command. The second priority was transportation to support the advance inland, to include the trucks necessary to fill out combat organizations.¹²⁵ The G-4 and DMG for administration in the 1st Army argued that their initial estimates and provision of service forces to run Algiers for the first two months of the campaign had been very accurate. That plan had fallen apart when trucks were stripped from the sub-base and assigned to 78th Division and the 1st LoC command to support the advance into Tunisia.¹²⁶

Because the western task force had not reserved any troop slots for SOS leaders in the assault wave, a massive backlog of material had developed on the docks at Casablanca.¹²⁷ The 6th Port Battalion, the unit charged with running the Moroccan ports, arrived with UGF-2 on D+6 and started clearing away the boxes sitting out on the piers, moving them to local warehouses. The next stage of the problem was figuring out where all this equipment was needed. Many items unloaded in Morocco had faulty paperwork; manifests were missing or incorrect, or else they had become irrelevant with the changing tactical situation. The arrival of trained service units to support the WTF between 18 November and 1 December helped break up the logjam. The 25 ships that arrived on 1 December were emptied in three weeks; the daily discharge average jumped from 1,700 to 3,700 tons between November and December.¹²⁸ The next snag

¹²⁵ 1st Army, “Administrative Lessons of the Campaign in North Africa,” 27 July 1943. G-4 Files, AFHQ, RG 331, NARA II, 1.

¹²⁶ *Ibid.*, 2.

¹²⁷ The WTF SOS commander, BG Wilson, convinced the Navy to surrender three spots on the assault convoy to his team. Leighton and Coakley, 451.

¹²⁸ Leighton and Coakley, 452.

discovered in the chain was a shortage of cargo trucks to haul items from the docks out to local warehouses. A large number of the 200 U.S. trucks dedicated to Casablanca and Oran, of 600 total U.S. cargo trucks landed during November, had been damaged in transit as a result of ineffective waterproofing.¹²⁹ The transportation section at AFHQ scrambled to gather enough serviceable trucks with operators to form three reserve companies (300 trucks) that would answer directly to the theater staff.¹³⁰ This sparked Gale to issue a directive on 8 January demanding a comprehensive report on all wheeled assets available in theater and, more specifically, on those companies controlled directly by AFHQ, 1st LoC, and the U.S. base sections.

Defeating Continental Distances: Getting the Trains Running

The Allied plan to get the French rail service back into operation as quickly as possible worked very well. The invaders discovered that their estimates of the numbers and working condition of French equipment were wildly optimistic, but they landed the right experts to maintain in place what they found and to run a reliable service from Casablanca to Bône and beyond. The first increment of transportation units arrived on schedule, and by mid-December there were coherent command and control, operating, construction, and engine-repair systems in place linking all three clusters of ports with the 1st Army rear. The Royal Engineers' estimate for the British zone concluded that the network could have handled ten trains a day if the rolling stock had been available; five trains a day was the average for December.¹³¹ January saw the arrival of American units in the British rail sector, and the daily average jumped to seven trains a

¹²⁹ Weller, 273. Dworak, 91.

¹³⁰ CAO NA 5 Jan 1943.

¹³¹ "North African Railway Operations," Exhibit T "Royal Engineer Notes on the NA Campaign", 4.

day before leveling off to six in February and March. Luckily new engines and rolling stock started arriving from both the United States and Great Britain by the end of January because the rail mechanics could not keep up with the breakdowns of old French equipment. There were plenty of mechanics, but spare parts for the old French engines were not available in the system and could not be easily manufactured in theater.¹³²

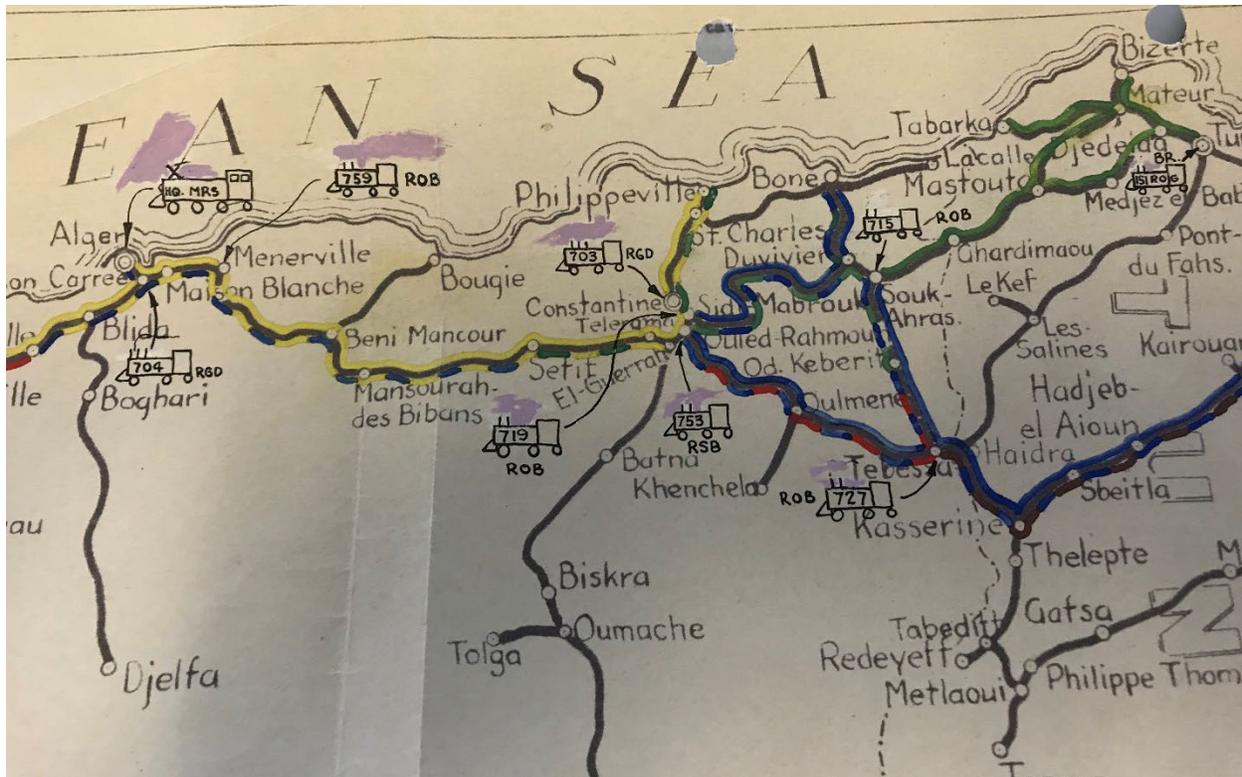


Figure 2.4: Map of the rail network and Allied units manning it, May 43

Rail operations became more efficient with the activation of the AFHQ Director General of the Military Railway Service at Algiers on 9 February 1943. The six construction companies of the French military railway service were folded into the full strength of the Allied rail command, and the network was lengthened and expanded to reach dumps in the 1st Army rear. In March BG Gray reduced the shipping burden on AFHQ by cutting his request for engines and

¹³² Ibid, 7.

cars down to 165 and 1,500, or 50% and 33% of the request submitted before the invasion. Shipments of rolling stock from home increased in scale, bringing engines and various cars into theater with each convoy. Teams of mechanics completed final assembly at the ports, averaging eight engines and anywhere from ten to 60 cars a week from the first week of February to the last week of April.¹³³ Freight cars included refrigeration cars, flat and box cars, fuel tankers, gondolas (used to move taller equipment under bridges and through tunnels), and 50 special “warflats” designed to handle the heavy Churchill infantry tank.¹³⁴ By the end of May, counting only the equipment provided by the United States, the Allies had introduced 106 engines and 756 cars, of which 89 engines and 495 cars were still in service. Coal consumption peaked from December into March, averaging 35,000 tons a month to keep the military trains rolling. As the original logistics estimate foresaw, rail was always going to be a secondary means of moving bulk supplies inland from the ports, but the Allied efforts to maximize the capability that was available was commendable. This success was obviously easier to accomplish because neither side had the time or inclination to bomb and shell French North Africa into a mess of rubble during the campaign.

Naval Ferries and Long-haul Truck Shuttle

The Allies had experienced a cargo truck problem in November and December, but only because of rapid changes to the tactical situation driven by Axis reinforcement of northern Tunisia. As a result, 78th Division was forced to launch a hasty advance to try to seize Bizerte and Tunis before organic transport arrived, and two U.S. battalions and a brigade-sized battle

¹³³ Ibid, Exhibit Q and R.

¹³⁴ Warflats was the term used by British logisticians referring to special rail cars built to handle the weight and dimensions of the Churchill infantry support tank.

group (CCB/1AD) were raced east to strengthen the thrust. Despite the unanticipated burden represented by the U.S. units, 1st Army managed to meet the supply requirements of their slowly increasing footprint in Tunisia.¹³⁵ According to the 1st Army official assessment of the campaign, transport did present a “grave concern during the first half of the operation” because of equipment lost on damaged or sunk ships, air attacks, and unanticipated loans or support to French and American units.¹³⁶ The 1st Army was forced to pool all the trucks left in the combat area and ruthlessly prioritize their support. What suffered was the buildup of reserve stocks forward, and what resulted was a slower rate of major combat-unit reinforcement than the Army and AFHQ would have probably preferred. As we have seen, however, 5th Corps was capable of mounting attacks from mid-November through mid-January while sustaining a large multinational force in constant contact with German and Italian units.

Gale understood that, if he could get a ferry system running from Oran and Algiers into the smaller ports to the east, he could reduce the demands for rail and truck movement to bring new units and reserves of fuel and ammunition into the combat zone. Evidently the Royal Navy seemed to lack Gale’s sense of drive. They reported that they were in the process of establishing a reliable ferry service between Bougie and Djidjelli on 5 January and mentioned problems with the shuttle system east of Bône on 18 January. It seems that the Royal Navy had been too lenient with the French, who manned mechanically unreliable ships with unmotivated crews. Originally the coastal shuttle from Bône to La Calle had been operated by a Royal Navy fleet of LSTs, but, with the pending arrival of replacement Sherman and Churchill tanks for the British 6th Armoured Division and a separate tank brigade, the LSTs were due to be sent back to the

¹³⁵ 1st Army, “Administrative Lessons of the Campaign in North Africa”, 2, 7, 8.

¹³⁶ *Ibid.*, 7.

west.¹³⁷ Gale demanded an alternative solution, and a few days later the RN representative reported that they had come up with a fix that allowed the accomplishment of both missions.¹³⁸

A bit of good news was shared with the group by the U.S. G4 on 26 January. Based on a frank conversation among Eisenhower, Marshall, and Somervell on 25 January at Casablanca (the “Anfa” conference), an emergency convoy would depart New York not later than mid-February to deliver 5,000 cargo trucks, a company of heavy transporters (Diamond-T trucks and trailers), railroad engines, and rolling stock.¹³⁹ This is a well-known and often-repeated story, but it is also a damning indictment of decision-making within AFHQ and the U.S. War Department. By the end of January Eisenhower believed he had a truck crisis on his hands. As we will examine below, this truck crisis did not generate a supply crisis within II Corps. The truck crisis should have come as a surprise to no one, however; it was the result of deliberate decisions that prioritized men over equipment in the assault convoy. The problem got worse as the AFHQ staff continued to remove that equipment from the convoys sailing between November and February in favor of other priorities. By the time Eisenhower raised the issue with Somervell the crisis period was almost over, but senior leaders did not know it. UG-3 had delivered 4,500 2.5-ton trucks, and UG-4 delivered another 5,300.¹⁴⁰ It was true that many of these vehicles were crated and required assembly, but the trained manpower to supervise this work also arrived with UG-4. Regardless, Somervell promised to deliver all the items on Eisenhower’s new critical shortage list not later than 15 February, and both the ASF and U.S.

¹³⁷ CAO NA 18 Jan 43.

¹³⁸ CAO NA 21 Jan 43. The Bone to La Calle service would come up as a problem again on 8 March, with the breakdown caused by the same issues with French effort and RN supervision. Gale fixed the problem by demanding a daily update on the tonnage moved into La Calle for the next week, which convinced the RN to stay on top of the problem for the duration of the campaign.

¹³⁹ CAO NA 26 Jan 43. Leighton and Coakley, 474.

¹⁴⁰ Leighton and Coakley, 474. UGS-3 arrived just before 8 December and UGS-4 arrived in early January. UGS-5 was due later in January or early February.

Navy moved heaven and earth to pull it off. The convoy, referred to as UGS-5.5, left New York on time, loaded with 6,800 vehicles, and with a new set of escorts that the U.S. Navy had declared were impossible to provide only a few months earlier. Evidently the threat of dropping bad news near the President and Prime Minister worked miracles in expanding what seemed possible in providing support to an active combat theater.

Contested Air and Sea Domains

It is important to remember that for the duration of the first half of the campaign in North Africa the Allies had to deal with the periodic loss of merchant vessels to submarine attack. In each case this would trigger a drill to determine what the ship was carrying, if that cargo was still critical, and, if so, how to replace it from either the United States or Great Britain. Allied forces also discovered that fighting under contested skies was an unpleasant proposition. Headquarters were attacked, interrupting the efficient running of the campaign. Truck convoys, trains, depots, and service units were strafed and bombed, slowing the flow of material to the east, destroying precious transport, and killing and wounding skilled labor.¹⁴¹ To offer just one example, a *Luftwaffe* air attack hit the 163th Railway Workshop Company on 18 February 1943 at Sidi Mabrouk resulting in sixteen casualties among the mechanics working on engines and railcars.¹⁴² Soldiers were used to the variables that combat adds to efforts at the front, but deep attacks that interfered with the lines of communication, especially on the ground, were a new experience.

¹⁴¹ During the CAO conference on 30 January the group discussed the impact of recent successful German submarine attacks and air raids on Allied efforts to keep supplies flowing to 1st Army.

¹⁴² “North African Railway Operations,” Exhibit T “RE Notes on the NA Campaign,” 7, and Exhibit B “Chronological History of British Units.”

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St. George Hotel
and Environs
ALGIERS

- (1) St. George Hotel;
Main building of
AFHQ
- (2) Hotel Alexandra;
Location of AG,
MGS, Liaison
Section, and JRC
- (3) Location of Head-
quarters NATOUSA



Figure 2.5: The St. George Hotel complex, Algiers; home of the AFHQ

Figuring out how to Integrate the Americans

At the same time senior leaders worked to establish and manage a distribution system stretching from Morocco to Tunisia, 1st Army was struggling to integrate an expanding pool of American forces into the British command. Starting in early January a major source of pressure on the sustainment system was the flow of U.S. forces from Casablanca and Oran to the southern end of the 1st Army line solidifying in Tunisia. II Corps managed the flow of U.S. forces arriving from the west and relied on the British 1st Line of Communications command to bring their supplies up from the ports. The 1st Army was directed to coordinate the administrative needs of any attached U.S. forces, supplying them with common-use items from British stocks, and pushing U.S.-specific requests up to AFHQ.¹⁴³ To ease the burden on 1st Army and the British troops manning the line of communication, Philippeville would be expanded as an

¹⁴³ "Introduction of US Agencies into Areas Now Under British Control," memo published by AFHQ G4 on 24 Jan 43. G4, AFHQ, RG 492, NARA II.

intermediate port supported by a direct convoy from the U.K. every sixteen days and by a ferry from Algiers every eight days. The mission given to the British LoC command was to discharge between 1,500 and 2,500 tons daily from ships at berth and move 850 tons a day by rail and 650 tons a day by truck out of the city. The base commander at Philippeville was directed to establish covered storage for 12,000 tons of supply in the local area to handle any backlog that could not be moved forward -- 8,000 for the U.S. and 4,000 for the British.¹⁴⁴

A few minor adjustments to the Allied command structure gave way to a flood of major changes in the month of February. Mark Clark became the 5th Army commander on 4 January 1943, surrendering his position as the deputy commander at AFHQ with the move.¹⁴⁵ At this stage 5th Army was largely an administrative and rear area command, directed to secure the interior of Morocco and Algeria while supervising the consolidation of the western and central task forces and their associated base sections. Ten days later AFHQ was forced to push a coordinating element forward to Constantine to protect the sensibilities of the French, who refused to take orders from the 1st Army. Thus, AFHQ personnel were siphoned off to a mission they were not sufficiently manned to perform while adding an unnecessary layer of command not justified by the number of combat troops present.

In the first half of February a massive reorganization of the U.S. portion of the theater command structure in North Africa occurred. On 4 February the North African Theater of Operation U.S. Army (NATOUSA) was activated, with Eisenhower as the commander and MG Everett Hughes as the deputy commander. The new staff joined the AFHQ at the St. George Hotel in Algiers. The most significant changes took time to develop, but over the coming three

¹⁴⁴ "Transit Depots, Philippeville," memo published by AFHQ G4 on 27 Jan 43. G4, AFHQ, RG 492, NARA II.

¹⁴⁵ History of AFHQ, 112.

months certain U.S.-only functions handled within AFHQ were transferred to NATOUSA. The mission sets that were transferred tended to be routine administrative matters such as service record management, award processing, mail and filing operations, and non-operational correspondence with agencies in the United States. Most of the G1 and Adjutant General staff was transferred immediately. In other sections the same people continued to do the same work, but they began to divide the shop internally into an Allied operational portion and U.S. administrative portion. The picture became even more complex when Hughes added commanding general of the new communications zone of NATOUSA to his list of responsibilities on 9 February. For the first six days of its existence the COMZ had no subordinate organizations or units, consisted of a small personal staff for Hughes, and had as its sole mission the coordination of U.S. administrative support in theater. Hughes did not work directly with his British counterparts in 1st LoC or 1st Army, instead coordinating through Gale to understand the local situation, requirements, plans, and priorities. This arrangement applied to any U.S. units attached to 1st Army as well; their supply chain still flowed through 1st Army to AFHQ and not through Hughes' command.

In the middle of this period of turmoil, Gale announced that the administrative system in North Africa had stabilized and that it was time to scale back the CAO conferences, cutting back from six to three meetings weekly.¹⁴⁶ This was probably driven by a number of factors, including human exhaustion. By this point the AFHQ staff had been conducting a daily meeting for administrative coordination every day other than Sunday since 22 August. Procedures and new organizations involved in managing sustainment were coming on line, and Gale thought that his staff could surrender day-to-day management and routine matters to these emerging nodes.

¹⁴⁶ CAO Conference NA 10 Feb 43.

He elaborated on 12 February, explaining that soon MG Hughes would flesh out his role as U.S. deputy theater commander and COMZ commander, Larkin would stand up a new SOS at Oran, and COL Pence would establish the eastern base section in Constantine. BG Gray had arrived from the United States and would soon be appointed the director of military railways. At the meeting on 14 February, British logisticians shared their plans to completely overhaul the management of British trucks in the communications zone. The 1st LoC would be pulling back a couple of company's worth of 3-ton lorries to establish a pool capable of shifting a thousand tons of supplies a day from base sections for delivery to 1st Army.

On 14 February the Director General of Military Railways, BG Carl R. Gray, Jr., was appointed and directed to unite all military railway services (“units, resources, and facilities associated with civil and military rail traffic”) under his office, answerable only to General Gale.¹⁴⁷ The next day a service of supply headquarters was established as a subordinate command within NATOUSA. Based in Oran with BG Larkin as the commanding general, the senior staff started to settle into place over the next ten days. The heads of coordinating and special staff sections tended to be colonels with the odd senior lieutenant colonel or brigadier general for critical positions like engineer or chief of military railroads.¹⁴⁸ The demand for U.S. field-grade officers seemed endless as new sustainment commands sprang up in theater.

Moving II Corps to Tunisia

We have already seen how Eisenhower directed II Corps to the front in early January, only to call off the projected offensive in mid-month based on the advice of Alexander. At the

¹⁴⁷ GO 19, AFHQ, 14 Feb 43. RG 492, NARA II.

¹⁴⁸ SOS, NATOUSA General Orders. GO 1 and 2, 15 and 25 Feb 43 respectively. RG 492, NARA II.

time Alexander's recommendation was based on a fear that 8th Army could not conduct a simultaneous support attack to tie down German reserves, but after the fact the decision was also blamed on logistical difficulties. But this was not accurate; by 15 January II Corps was making excellent progress obtaining their objectives to stockpile enough supplies near the front, long before the arrival of UGS 5.5 in mid-February. This was an excuse generated well after the fact to obscure the real reasons the U.S. offensive planned for the end of January never happened.

In early January 1943 the corps G4 logs contain daily updates on progress with the effort to establishing an effective base of supply around three main dumps (Tebessa, Ferrainas, and Sbeitla) at the southern end of the 1st Army line.¹⁴⁹ The operation, initiated in the first few days of January, was called "Speedy Advance" by II Corps. The objective was to establish a robust logistics network capable of sustaining two reinforced divisions east of Tebessa. The G4 was directed to accumulate reserves in this base area consisting of 800 tons of food (CLS I), 2,000 tons of fuel and oil (CLS III), and 5,800 tons of ammunition (CLS V), in addition to smaller objectives for individual items (CLS II) and construction and barrier material (CLS IV).¹⁵⁰ The first ten days of Speedy Advance were rough; supplies issued daily tended to outstrip supplies received and reserves were shrinking – not getting larger. On the 10th of January the dump at Tebessa issued 26.5 tons of food, bringing reserve down to 52 tons (or two days of supply). The fuel situation was even worse. No 87-octane fuel had been moved forward yet, and 75-octane fuel was flowing out faster than it could be replaced to the tune of sixteen tons issued versus eleven tons received, leaving 130 tons in reserve. Finally, there was plenty of ammunition, with 1,786 tons on hand (about a third of the objective) with none issued and 400 tons received on 9

¹⁴⁹ II Corps G4 Daily Journals and Files, December 1942, January 1943, and February 1943. RG 407, NARA II.

¹⁵⁰ II Corps G4 Daily Status Report, 10 January 1943.

January. But by 15 January the logisticians, guided by Rhe Phillippe, had turned the corner, and by 30 January all stated goals for reserve supplies on hand had been met and daily resupply was outstripping the issue rate to associated units. The accepted historical excuse for the cancellation of the II Corps attack projected for late January was that 8th Army would not be ready to launch a pinning attack to keep Rommel occupied when II Corps attempted to penetrate into the gap between 5th Panzer Army and Panzer Army Africa.¹⁵¹ Gale states that on 17 January Alexander convinced Eisenhower to cancel the attack because he was not convinced the battle could be adequately coordinated or supported by 1st Army and the support commands.¹⁵² But as the chart below demonstrates, AFHQ and II Corps were making excellent progress with their logistical objectives by 15 January.

| | Goal | 10 JAN | 15 JAN | 30 JAN |
|-----------------------------|------|---------|-----------|---------------------|
| CLS I | 800 | 26.6 | 200 | 800 |
| CLS III (87 / 75 octane) | 2000 | 0 / 130 | 200 / 550 | 3,000 (combined) |
| CLS V | 5800 | 1786 | 5500 | 7000 |

Table 2.2: Supplies at major dumps in the II Corps area, Jan 43, in tons¹⁵³

This is not to say that every logistical requirement of the corps was being met. Tonnage by class of supply is an inexact unit of measure. Oil, fuel, and lubricants included over thirty specific sub-types tracked at the corps level. CLS II items came in a staggering variety of types, and the CLS V report submitted daily by the Corps was sixteen pages long, with each page

¹⁵¹ Playfair, *The Destruction of Axis Forces in Africa*, 275.

¹⁵² Gale, *War Diary*, 17 January. Gale was initially against the offensive because he believed it was logistically impossible to support, but he had changed his mind by 17 January. This was in large part because of the work his deputy for movement and transportation, Rhe Phillippe, had done to get the railroads working effectively behind the Americans.

¹⁵³ II Corps G4 Journal and Files, 10, 15, 30 Jan 43. RG 407, NARA II.

listing approximately thirty ammunition items. It is highly likely that the corps was running short on some equipment and supplies that impacted tactical options. Yet, throughout all the documents coming from the corps G4 in January and February 1943, the overriding message was one of optimism. Daily requirements were being handled easily while the corps was simultaneously building the directed reserves. One thing that helped was the low intensity of combat faced by the corps in the first six weeks of 1943. The reports of the corps ammunition expenditure for 28 and 29 January were extremely modest: less than 100 pounds of engineer demolition supplies, 1,240 high explosive and 300 anti-tank shells for the 37mm guns, 200 anti-tank mines, and about 2000 shells for 81mm, 75mm, and 105mm mortars and howitzers. These may seem to be large numbers, but this was across an organization that included two divisions, a field artillery regiment, about a half-dozen anti-tank battalions, and other service and support units.

One area of concern does emerge from a very careful reading of all the reports consolidated by the corps G4 during this period; repair parts were in short supply, and the impact on fleet availability rates was compounded by units ignoring directives about periodic maintenance. At the end of January, the corps reported sixteen light and medium tanks (of which leaders were aware) down for repair at the division or corps level and seventeen replacements headed to their units. The report also noted that the corps ordnance companies were at zero balance for halftrack, 2.5-ton truck, Jeep, and ¾-ton truck replacement engines. To make matters worse, there was an unfulfilled requisition for 32 medium and 25 light tanks against the Mediterranean Base Section at Algiers.¹⁵⁴ The urgency of the alarm was stepped up on 13 February when the corps chief of ordnance pointed out that seven medium tanks were deadlined

¹⁵⁴ II Corps Ordnance Section Daily Report 29 Jan 43, II Corps G4 Journal and Files. RG 407 NARA II.

for blown engines and that he expected a lot more once the 40 tanks recently received at his level had gone through the initial inspection process. This same concern with parts for repairs and with spare major assemblies was noted in the G4 roll-up for 13 February as well. By 20 February the II Corps periodic administrative order noted problems with keeping the 2.5-ton truck fleet rolling and cautioned units to stop overloading the trucks, to watch their maximum speeds, and to avoid (or slow down) on bad roads whenever possible.¹⁵⁵ By the middle of February, it seems, the usual wear and tear of continuous operations had reduced the readiness rates of tracked and wheeled vehicles to the point where corps leaders were noticing and taking steps to slow down the rate of attrition.¹⁵⁶

Why did a maintenance issue emerge as the only problem of note in the II Corps by mid-February 1943? After the Tunisian campaign was finished, the II Corps ordnance section completed a report on their support of operations that helped clarify some of the challenges they faced. The report called the period from 20 November through 5 January phase one, which covered ordnance activities beginning with their consolidation after landing through II Corps' posting to the southern flank of the 1st Army line in Tunisia. During this first six weeks in country, the ordnance battalion responsible for vehicle repairs established its base at Souk el Arba but was forced to send its twenty 2.5-ton trucks back to Oran to pick up repair parts and replacement equipment, a round-trip distance of 1,500 miles.¹⁵⁷ Had AFHQ established a

¹⁵⁵ II Corps G4 Journal and Files, 20 Feb. RG 407 NARA. The corps published an admin order about once every two weeks with administrative, logistical, and personnel related instructions for all associated units.

¹⁵⁶ Operational readiness rate (ORR) is the U.S. Army term used to gauge the number of vehicles (by type) that are ready for combat relative to the number on hand and is expressed as a percentage. An ORR for tracked combat vehicles between 80 and 90% is a healthy norm. Anything below 80% is problematic and will draw organizational energy to ensure that there is no systemic issue. The ETOUSA transportation section projected an ORR of 80% among the 2.5-ton truck fleet projected to operate in France as their planning figure when working out the number of truck companies necessary to support Overlord. See Joseph Bykofsky and Harold Larson, *The Transportation Corps: Operations Overseas* (Washington, D.C.: Chief of Military History, 1957), 239.

¹⁵⁷ II Corps Ordnance Service Report "Ordnance Service in Support of Tunisian Campaign, Nov 20 1942 to May 15 1943." RG 407, NARA II.

motorized distribution system across the theater to supplement the trains, trips like this would have been unnecessary. The author of the report noted that repair parts were in short supply across the theater. In this same time frame II Corps worked to replace or repair the 32 medium and 46 light tanks of Combat Command B, 1st Armored Division, which had been lost or damaged while in direct support of the British 1st Army.¹⁵⁸ Ammunition presented a second challenge for the ordnance service, with supplies flowing by coastal shipping or rail to Bône. Eventually the Royal Navy established a reliable LST shuttle service from Bône to La Calle (after two iterations of continuous pressure from Gale) cutting the distance that the 30 2.5s from the ammunition company had to shuttle the ammunition to reach the main dump at Souk el Arba (until the corps was redeployed to the south). The corps just did not have enough trucks or repair parts for those trucks to sustain repeated trips back to La Calle, Bône, Algiers, and, in the worst case, Oran.

The challenge only got more demanding as the corps shifted its base area 100 miles to the south and added another two divisions to the order of battle. The report referred to the period from 5 January through 1 March as phase two and described it as the most difficult period for the ordnance service. One concern was the wear and tear on tanks that had been forced to move under their own power from the major ports to the front lines in order to join their battalions.¹⁵⁹ It took a few months, but eventually the corps' request for wheeled tank transports (Diamond T trucks and trailers) was met by AFHQ and the ASF, allowing the creation of the Provisional 622nd Ordnance Transporter Company in March. In mid-February the corps was joined by advanced elements from the 9th and 34th Infantry Divisions, almost doubling the supply

¹⁵⁸ Ibid, 3. The losses in CCB, 1AD occurred between 20 November and 10 December 1942.

¹⁵⁹ Ibid, 5.

requirements on the organization. This came at almost the same time as the battles around Kasserine and Sidi Bou Zid, and the combination of demands was difficult to overcome. Combat losses from 21 January to 21 February included 21 light and 162 medium tanks, 194 halftracks, 30 self-propelled howitzers, 80 self-propelled tank destroyers, almost 100 mortar and towed guns, 60 ¾-ton trucks and 143 2.5-ton trucks.¹⁶⁰ This overwhelmed the CLS II requisition and distribution network in North Africa for the next two months. Problems related to shortages in repair parts mounted, and prioritization between combat readiness and maintenance emerged as a command-level issue. The repair battalion had replacement engines on hand, but commanders would not pull the tanks back from the line long enough to complete the jobs. A lack of organization and coordination between the British and U.S. base sections and the tactical elements in 1st Army and II Corps was a problem during this period as well. Reading between the lines, it was obvious that the II Corps staff was tired of having to deal directly with AFHQ, two American base sections, and a number of British base sections to figure out what was available in theater. The corps would have preferred working with a central authority charged with supervising the distribution of supplies from the base areas to army- and corps-level depots. The authors of the report clearly indicated that they welcomed the establishment of the SOS as a single point of contact that could speak knowledgeably about the entire supply chain on the continent.

¹⁶⁰ Ibid, 8.

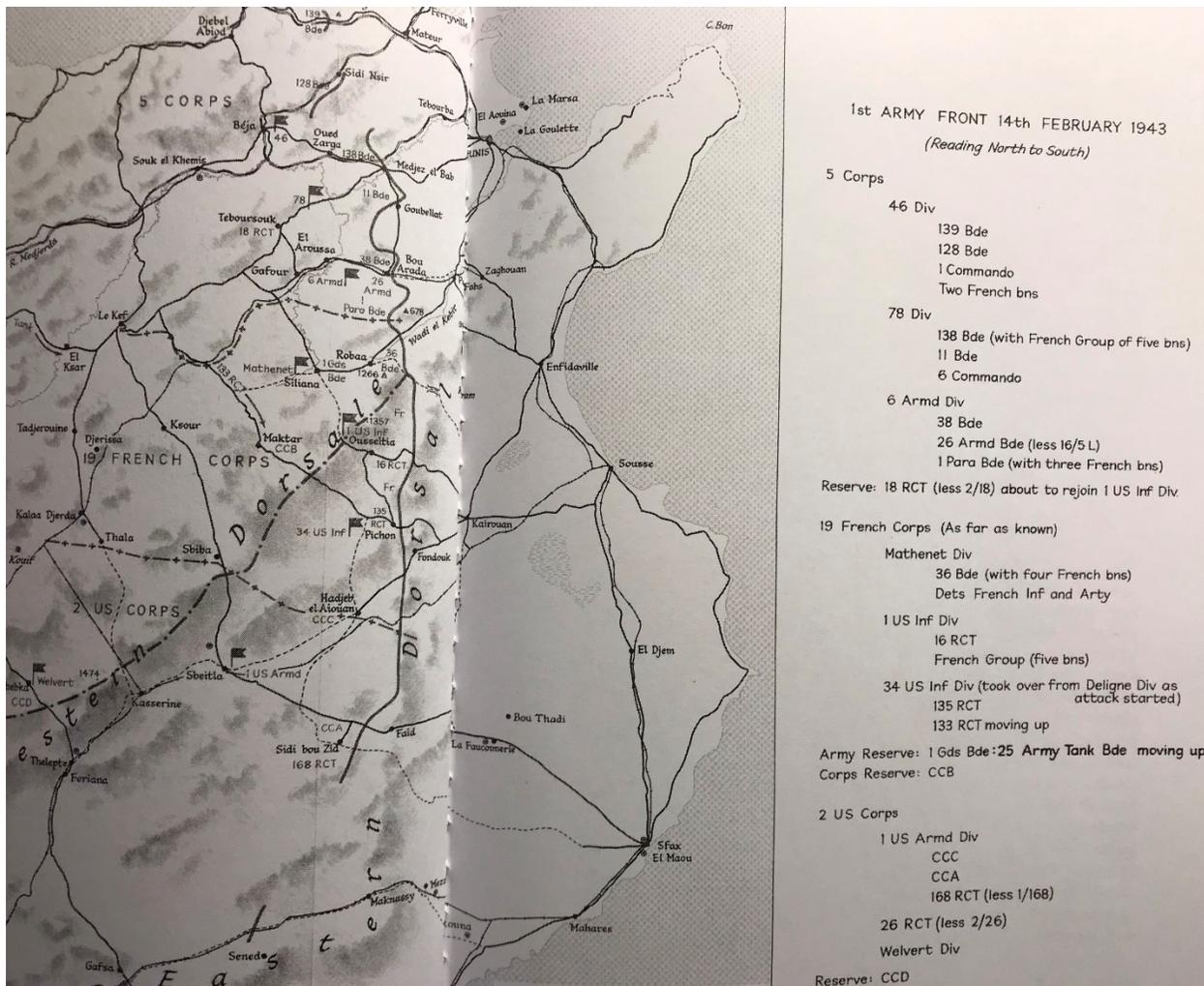


Figure 2.6: 1st Army composition and disposition, 14 Feb 43

The overarching impression from the detailed tactical reports logged by II Corps is that American forces did not experience a supply crisis in January and February 1943. Repair parts, replacement vehicles, and a system to move everything forward to the combat area constituted a problem, but not to the point that it eliminated tactical options available to the corps commander. If material was not the problem, perhaps a shortage of manpower prevented a return to the attack? II Corps losses from 1 January to 15 March included approximately 300 officers and

5,000 enlisted dead, wounded, captured, and missing.¹⁶¹ This was from a total authorized strength of 88,287 soldiers, or about 6%. The corps received as individual replacements during this same window 290 officers and 6,746 enlisted soldiers, with approximately 4,000 of them for the infantry, 850 for armor, and 800 for field artillery. Combat losses in the period prior to this report (mid-November to 31 December) were not insignificant, but they did not come close to those suffered by four divisions in intense combat against elite German formations in January through March. It is safe to say that the replacement system was generally keeping up with losses from mid-November to mid-March. What prevented the resumption of the Allied offense in early 1943 was a lack of divisions and air wing on the front lines, not supply shortages or a breakdown of the replacement system.

This detailed examination of their logistical reports demonstrates that II Corps could establish a large depot with significant reserves at the southern end of the Allied line at the very time Eisenhower was claiming a mobility crisis and establishing two new headquarters to coordinate supply in the theater. Damaged equipment was being repaired, and destroyed equipment replaced. Formations maintained their combat power. The replacement system worked; II Corps lost no more than 8,000 men from mid-November to mid-March and received almost 7,000 replacements by 15 March 1943. The Corps' logistical and combat leaders did not raise any red flags related to logistics until after the significant losses from the Kasserine battles. This is not to say that everything was perfect within II Corps, or to suggest that their situation was identical to that faced by the British 1st Army, the XIX French Corps, or Allied air units in North Africa. But II Corps could have sustained an offensive with two divisions from mid-

¹⁶¹ II Corps Report of Operations Tunisia 1 January to 15 March 1943, 2 May 1943. Appendix C. RG 407, NARA II.

January to mid-February without triggering a logistical crisis, and they were located at the toughest place on the Allied line to maintain a line of communications. By 10 January enough material was reaching II Corps to enable combat operations – logistics did not fail the maneuver commanders, despite what Eisenhower and other leaders at AFHQ were implying at the time and allowed to enter the historical record. The loss of Allied momentum from mid-April to late April was due several other problems, but fuel and ammunition for the units in the front line was not one of them.

MG Everett Hughes, NATOUSA, and its COMZ

Despite the reality on the ground, one outcome of the Anfa Conference and Marshall and Somervell's visit to AFHQ was the decision to establish a traditional theater headquarters structure for the U.S. Army in Africa. AFHQ had very deliberately decided to start the North African campaign with no intervening U.S. administrative headquarters between themselves and the three task forces.¹⁶² As operations progressed the various support agencies slowly coalesced into two American base sections and a British line of communications command as the original plan had envisioned. But Eisenhower changed his mind near the end of January 1943, resulting in the decision to significantly expand U.S. administrative overhead in February by adding two echelons between AFHQ and U.S. units. Internal reexamination of the COMZ issue swirled around AFHQ during the last week of January. Gale supported Hamblen and Sawbridge's position from October; nothing significant had changed to invalidate the original concept of direct supervision by the senior headquarters. Adding any additional layer of control between

¹⁶² ETOUSA was theoretically in the U.S. chain of command for Operation Torch until early February 1943, but no one wanted or expected them to try to supervise operations in Africa.

the G4 and the three organizations directed to provide logistical support would undermine the authority of AFHQ and reduce the G4 to an irrelevant organization. But on 29 January General Smith overrode Gale and his principal subordinates and announced that Hughes would soon take over as the deputy NATOUSA commander and activate a COMZ command with authority to coordinate U.S. sustainment.¹⁶³ This resulted in the announcement of Hughes as the deputy theater commander on 4 February and then as the COMZ commander on 9 February and in the elevation of Larkin (the MBS commander) to SOS, NATOUSA on 15 February.

So, what had changed to overthrow the original concept of how best to supervise administrative support to the combat elements? The chief of the U.S. Service of Supply, LTG Somervell, accompanied Marshall to the conference at Casablanca. At the end of the conference, both leaders visited the AFHQ at Algiers. One imagines Eisenhower pointing out the amount of time he devoted to logistical issues every day and noting the limitations within the distribution system that prevented rapid transfer of more divisions to Tunisia. From there it was a short leap to conclude that the initial thrust into Tunisia in November and December had failed largely due to logistical problems. The answer from Somervell's perspective would have been easy -- just follow U.S. doctrine and common practice from other commands by establishing a theater and service of supply command. Somervell was fighting a similar battle for control of logistics planning and execution with the War Department general staff and Operations Division.

The push to reorganize in North Africa was not an isolated development, adding plausibility to the idea that Somervell was trying to reorganize command and control in active theaters to ensure that SOS commanders could accomplish their missions. Soon after the arrival

¹⁶³ History of AFHQ, Part Two, Section 1, 199. The authors reference the minutes of the CoS meeting for 29 Jan 43.

of LTG F.M. Andrews in the U.K., MG John Lee, the SOS commander within ETOUSA, proposed a similar reorganization.¹⁶⁴ Lee argued that he should also be Andrews' deputy theater commander, empowering him to supervise the sections charged with administrative support within the ETOUSA headquarters, particularly the G4.¹⁶⁵ Lee and Somervell wanted to ensure that the senior commanders responsible for executing sustainment had the authority to drive planning and to keep the G4 out of the day-to-day business of the technical service sections. BG Raymond Moses supported the suggestion that the creation of NATOUSA and Lee's bid for increased authority within ETOUSA were driven by Somervell and negotiated during conversations held at Casablanca and his follow-up visit to Algiers.¹⁶⁶ But LTG Andrews rejected the non-doctrinal suggestion that he empower a deputy theater commander (for a mission that was something of a backwater in 1943 to begin with) but agreed to align the chiefs of technical services under the SOS.¹⁶⁷ The practical result was the addition of another layer of friction between the ETOUSA G4 and the technical service experts who would be needed in planning the invasion of France. Lee launched a second attempt to drive home his preferred system when LTG Jacob Devers arrived in early May to take over ETOUSA. Devers' solution was to dual-hat Lee as his theater G4, an elegant compromise that did not work as well as it should have to address the legitimate concerns raised by the SOS leadership.¹⁶⁸ A LTC serving in the ETOUSA G4 throughout this period observed that Lee seemed to prioritize his duties as the SOS commander (and the U.S. build-up in Britain) over his responsibilities to help plan the

¹⁶⁴ LTC F.A. Osmanski, "The Logistical Planning of Operation Overlord, Part 1," *Military Review* 29, no. 8 (November 1949): 33-34. Andrews arrived on 3 February and the ETOUSA staff was partially reorganized before the end of the month.

¹⁶⁵ This was very similar to the position and authority Gale possessed in North Africa once the 1st LoC was detached from 1st Army and placed under his control.

¹⁶⁶ Moses, "Org and Cmd in the ETO," undated letter to R.W. Coakley, 5. Moses Papers, AHEC.

¹⁶⁷ Osmanski, Part 1, 34.

¹⁶⁸ Osmanski, Part 1, 36.

invasion of France.¹⁶⁹ The real point of all of this is that developments in North Africa in January and February reflected the ongoing professional discussion across the U.S. Army on the best way to organize a theater to ensure adequate administrative support. In February in North Africa, doctrine and large staffs won out over an alternative method proposed by AFHQ during planning in October and November 1942.

At first, NATOUSA did not have enough manpower or unique authority relative to AFHQ to provide much assistance to Eisenhower and his key lieutenants. Standing up Larkin's SOS made sense and put one organization in charge of managing the flow of supplies out of three ports to the front-line divisions, relieving the AFHQ G-4 of this burden. But in many ways, the elevation of Hughes and the establishment of a COMZ made the sustainment chain more confusing and less responsive. This was obvious, as shown by the constant calls from the field seeking clarification of this new and convoluted chain of responsibilities. U.S. doctrine did not address the idea of a deputy theater commander, but it did mention the usefulness of having a COMZ commander and the traditional array of authorities granted to him. The official history of the AFHQ implies that this is why Hughes was first named the deputy NATOUSA commander but was then appointed as the COMZ commander about a week later.¹⁷⁰ Hughes did not have a dedicated NATOUSA or COMZ staff until after the end of the Tunisian campaign, limiting his usefulness to Smith and Eisenhower. Hughes had only one subordinate element (the SOS command under Larkin, which was not established until two weeks after Hughes was appointed as deputy theater commander), and NATOUSA's authority over Clark's 5th Army was not

¹⁶⁹ This might not have been fair and LTC Osmanski was not in a great position to evaluate the totality of General Lee's time management skills. Regardless, Eisenhower removed Lee from the ETOUSA chain of authority and brought along Gale to continue as the CAO while retaining MG Crawford as the COSSAC/SHAEF G4.

¹⁷⁰ History of AFHQ, Part Two, Section 1,193.

clearly delineated.¹⁷¹ Official orders from both AFHQ and NATOUSA did establish that Hughes and Gale were to be considered equals. Therefore, Hughes could not direct Gale, and presumably Gale's subordinates on the AFHQ staff. Orders also specified that 5th Army – not Hughes – was responsible for security in the COMZ.¹⁷² The worst complicating factor was Hughes' list of authorities as the deputy theater (NATOUSA) commander. Because some U.S. members of the AFHQ staff (to include the G4) were dual-hatted as NATOUSA staff, they found themselves with two bosses who occasionally gave them conflicting guidance.

General Smith, as the AFHQ chief of staff, was in charge of all coordination in the command, and Gale was empowered to supervise the coalition G1, G4, and Movement and Transportation sections, as well as the special staff sections aligned under them. Hamblen answered to Gale for all matters associated with field logistics, and Gale answered to Smith. But now Hughes had written authority to supervise the NATOUSA staff, and, because they did not exist as a separate entity, Hughes could direct the Americans on the AFHQ staff, adding to their workload, confusing the priority of effort, and even inadvertently countermanding Smith's and Gale's instructions if he was not careful. Two solutions were possible: either form a stand-alone NATOUSA staff or write out in excruciating detail the tasks exclusive to AFHQ and NATOUSA. The command did neither, and unnecessary friction was the result.

Hughes demonstrated quickly that he did not see a problem with inserting himself into the U.S. G4 decision-making chain. One of his first notes to the American G4 directed the officer to stop performing the function Eisenhower, Smith, and Gale had come to rely upon him for, without providing a viable alternative. On 17 February 1943 he sent a note to Hamblen

¹⁷¹ NATOUSA GO 4, 15 Feb 43. NATOUSA File, RG 492, NARA II.

¹⁷² Which is inconsistent with *FM 100-10* or *FM 100-15*.

telling him to get out of the operations function and to stick with making policy. Hughes went on to inform the G4 that he should coordinate through Larkin or Hughes, and not directly with Gale, Smith, or Eisenhower; this would allow the two commanders to present a unified position on logistics to the AFHQ leaders. This guidance was ridiculous on a number of levels, and Hamblen largely ignored Hughes for the duration of the campaign in Tunisia. Gale figured out how to maintain an effective working relationship with Hughes, but General Smith grew more and more frustrated with what he saw as meddling with the AFHQ staff as operations in the Mediterranean continued.¹⁷³ Larkin and his three base-section commanders were also frustrated because they believed that the relationship and division of authority between the SOS staff and various personnel working for Hughes and Gale were never spelled out in sufficient detail to prevent everyone, including II Corps and its divisions, from coloring outside the lines. The strongly implied conclusion in the official history of the AFHQ was that the chain of authority for sustainment was very confusing and still not resolved when operations wrapped up in Tunisia in May 1943.¹⁷⁴

The battle between Hughes and Smith was almost pre-determined; even if different personalities had been involved, the flawed organizational structure would likely have produced the same need for more clearly defined boundaries. The exact same situation would play out among SHAEF, ETOUSA, and the SOS/COMZ headquarters during operations in France. The problem was stickier with Hughes because of his pre-war friendship with the Eisenhower family. They had attended the Army War College together and socialized during their follow-on assignments in Washington, D.C. The two

¹⁷³ Hughes diary entries 12 March, 5 May, 2 and 24 June 1943. ESHP, LoC. Hughes records a series of disagreements about control of U.S. staff supporting both AFHQ and NATOUSA mission sets.

¹⁷⁴ History of AFHQ, Part Two, Section 1, 201-205.

officers were reunited in London in the summer of 1942 when Eisenhower assumed command of ETOUSA; Hughes had arrived about two weeks earlier to serve as the Chief of Ordnance in MG John C.H. Lee's SOS command before moving over to the chief of staff position at ETOUSA. In early August Eisenhower transferred his good friend over to join the Torch planning team, where he worked with Gale as the "deputy chief administrative officer" as a colonel and brigadier general through early December.¹⁷⁵ Hughes did not deploy with Gale and the rest of the sustainment staff, but was led to believe that he would eventually deploy to North Africa in some capacity.¹⁷⁶ On 30 January 1943 Smith warned Hughes that the transfer was imminent; Hughes left London on 2 February and landed in Algiers on the afternoon of 3 February.

Leaders emerging from the ASF community within the U.S. Army believed that the AFHQ had made a mistake by starting the campaign without a more traditional SOS and theater command relationship and tried to learn from the process how to better organize in the ETO.¹⁷⁷ Hughes, Smith, and Eisenhower tried to fix the formal instructions and division of labor between NATOUSA and AFHQ from February to June before finally giving up and living with the system that had evolved on its own.

Disagreement over the structure and division of labor between AFHQ and NATOUSA escalated in late April to the point where Eisenhower appointed a trusted intermediary, BG Clarence Huebner, to study the problem and recommend a solution.

¹⁷⁵ Hughes was only on loan to AFHQ and officially retained his position as the SOS chief of staff.

¹⁷⁶ Hughes diary entries 14 October and 13 November. ESHP, LoC.

¹⁷⁷ John C.H. Lee, *Service Reminiscences*, 87. Copy of unpublished manuscript held at the Army Heritage and Education Center. Lee referred to learning from the difficulties experienced by Larkin and Hughes in his own attempts to set up the relationship between the SOS and ETO in Great Britain. BG Ray Moses reached out to Hughes at the end of 1943 to inform his own efforts to establish responsibilities between FUSAG, the SOS, ETOUSA, and the Allied command for Overlord. Box I-6, ESHP, LoC.

Huebner's answer would have been to create a small NATOUSA staff and wall Hughes off from the Americans at AFHQ, to include the special staff and technical service chiefs. Hughes managed to defeat this idea by going over Smith's head to Eisenhower, and the subject was publicly shelved on 5 May.¹⁷⁸ Smith tried once more to find a workable solution, proposing on 2 June that Hughes become the American CAO, mirroring Gale's position and authority relative to British service forces in theater. It was an elegant solution that would have preserved Hughes' authority over the COMZ and SOS, given him direct access to the AFHQ staff, and maintained his cooperative relationship with Gale. But it would have subordinated him to Smith and restricted his authority exclusively to issues within the COMZ. For these two reasons, Hughes rejected the recommendation and Smith decided to drop the issue.¹⁷⁹ After this last fight Smith dropped the issue entirely; everyone involved focused on making the system function rather than trying to find a perfect solution that satisfied everyone.

Based on his diary entries, Hughes was more concerned with preserving his authority and defeating encroachment by Smith rather than fixing shortcomings in the Allied system. In Hughes' defense, his overriding concern was taking as much administrative load from Eisenhower as possible, while preserving the sanctity of command authority throughout the U.S. Army.¹⁸⁰ Hughes believed in the bifurcation of

¹⁷⁸ Hughes Diary 24 April and 5 May 1943. Included are three sketches drawn by Hughes outlining possible relationships between AFHQ, the theater/COMZ, and the SOS. There is also a memorandum for record written on 26 April to capture the sequence of events between 23 and 26 April leading to the confrontation and need to consult Eisenhower to stop the implementation of Huebner's recommendations without the commander's consent.

¹⁷⁹ Hughes Diary 2 and 24 June. ESHP, LoC.

¹⁸⁰ There was clearly an element of principle and concern with establishing a bad precedence in Hughes' fight with Smith. Hughes believed it was important to preserve his right to answer to no staff officer. Hughes wore two command hats, both as the COMZ and deputy theater commander, so that he answered only to Eisenhower and not to his chief of staff Smith.

authority between the combat and communication zone consistent with U.S. doctrine and espoused by Somervell and his apostles at the ASF. Hughes also understood how important it was for U.S. logisticians to get experience running a communications zone, a skill that might have been superfluous in North Africa, but it would be essential in France.¹⁸¹ No one allowed this professional disagreement to fester and become long-term animosity. Smith, Hughes, and Gale remained cordial and worked well together in 1944 and 1945. Most importantly, the argument over shared responsibilities between AFHQ and NATOUSA did not get in the way of Allied operations in North Africa between February and victory in May.

18th Army Group Takes Charge

Even as the Americans were coming to terms the creation of a SOS, a new theater command, and exactly what power Hughes had over the AFHQ staff, the 18th Army Group was established with the publication of GO 21 on 18 February 1943. It was a move that had first been discussed at the commanders' conference at Casablanca in mid-January; 18th Army Group was officially established with General Alexander assuming command and filling the role vacated by Clark in early January as the deputy commanding general for ground operations within AFHQ. By 20 February the 18th AG staff was running operations out of the old AFHQ site in Constantine trying to help with the battles around Kasserine Pass, manage the link up of 8th Army arriving from Libya, and sort out the convoluted chain of command for tactical and

¹⁸¹ Hughes diary entry from 20 August 1943. ESHP, LoC. Hughes hosted a meeting that day including Pence, Larkin, Adcock, and Tate where the men discussed the importance establishing a U.S.-only COMZ somewhere in the Mediterranean so that the service troops and their leaders could learn how to do the job without British assistance.

administrative orders to the combat divisions.¹⁸² Alexander's 18th AG would have operational authority over 1st Army, 8th Army, all U.S. ground forces in the combat zone, and the Free French XIX Corps. It was decided not to change the administrative arrangements for the two armies; 1st Army and associated air units would requisition back through AFHQ while 8th Army maintained its supply relationship with Middle Eastern Command.¹⁸³ Officially II Corps would coordinate directly with AFHQ for its administrative needs, but it was hard to cut the habitual relationship that had grown up between Larkin's SOS and the II Corps staff.¹⁸⁴ At the same time when Eisenhower was trying to rationalize the command structure tasked with overseeing ground operations and the communications zone, similar efforts were underway to consolidate and simplify the air and naval picture. The overall effect was to slowly consolidate air, ground, and naval power into the hands of one service commander in the Mediterranean, with Spaatz and then Tedder in charge of air, Alexander in charge of ground, and Andrew Cunningham directing naval forces.¹⁸⁵

One advantage of 18th Army Group was the ability to put the sustainment situation into perspective and to cross-level requirements between 1st and 8th Army. The day after its official activation, 18th Army directed 1st Army to transfer fuel and food to the advanced elements of 8th Army as they arrived in southern Tunisia.¹⁸⁶ Whatever the supply situation throughout AFHQ, Montgomery's vanguard obviously had it worse. As soon as the crisis associated with the

¹⁸² History of AFHQ, Part One, 110.

¹⁸³ Playfair, *The Defeat of Axis Forces in Africa*, 303.

¹⁸⁴ History of the AFHQ, Part One, 114.

¹⁸⁵ *Ibid.*, 120-132. For a short period of time AFHQ also supervised Force 141, the planning staff directed to prepare the invasion of Sicily. Force 141 would eventually morph into 15th AG with the dissolution of 18th AG and the transfer of Alexander. The planning of the Sicilian operation called into question who the real joint and ground commanders were in the Mediterranean. See Niall Barr's *Eisenhower's Armies* for an excellent explanation of the history of the planning process.

¹⁸⁶ CAO Conference 19 Feb 43.

German offensive through Kasserine Pass had abated, AFHQ and the 18th AG staffs began the process of formalizing the division of responsibility necessary to prepare for a major offensive in the spring. AFHQ hosted a meeting on 27 February to work through the details with all the key British and American leaders present.¹⁸⁷ The next day a new base was activated at Tripoli under the command of Brigadier Brian Robertson with the mission of shortening and simplifying the resupply of 8th Army. The command was fully operational by 3 March. On 2 March, MG Miller, the chief of admin for 18th AG, hosted his own logistics coordination meeting to establish both the quantity of supplies that would have to be moved forward before the spring offensive and exactly how they would be moved to the front.¹⁸⁸ The main 1st Army supply center would be established around Ouled Rahmoun (to the southeast of Constantine). The goal was to stockpile 25,000 tons of various supplies there by 25 March. COL Pense, the U.S. base section commander in the area, fired off a note to BG Larkin that evening asking for help. The II Corps consumed 750 tons of supplies a day under normal conditions; to establish the directed reserves would require additional trains, trucks, and service troops to handle the material. Pense insisted that he needed additional signal, quartermaster, depot, and port service companies and a separate engineer battalion to pull off the mission. AFHQ tried to help from their end by once again diving in to fix a foul-up that had interrupted the ferry service between Bône and La Calle ferry and demanding that the Navy provide 100 tons of supplies daily through this service.¹⁸⁹

Gale monitored progress by insisting that unit representatives provide an update of their progress in building up the directed reserves. These figures included the number of crated supply vehicles assembled in the last 48 hours and the tonnage of supplies on the ground at the

¹⁸⁷ CAO Conference NA 27 Feb 43.

¹⁸⁸ Notes taken by COL Pense and forwarded to BG Larkin, 2 Mar 43. MG Larkin's File, SOS, NATOUSA Files, RG 492, NARA II.

¹⁸⁹ CAO Conference NA 8 Mar 1943.

forward dumps for British and U.S. forces broken down by class of supply. The committee discussed the U.S. truck shortage on 10 March; Larkin needed 1,245 2.5-ton trucks to supplement rail deliveries. The II Corps could provide 650 from assigned units, but the balance would have to come by assembling crated trucks at the ports. Larkin was confident he would find the drivers and leaders for these six new companies once the vehicles were operational. On 13 March the EBS representative reported local reserves of 8,600 tons at Constantine and at Ouled Rahmoun and the daily receipt over 200 tons of POL. Steady progress was reported over the next two weeks. By 17 March five trains arrived each day in Philippeville carrying 1069 tons of military cargo, 8,000 tons of POL had reached the 1st Army forward dumps, and the G4 shared the good news that a heavy truck company capable of carrying tanks or bulk stores would be available soon.¹⁹⁰ On 24 March the stocks at Ouled Rahmoun had reached almost 15,000 tons; two-thirds were reserved for American use and the other third for the British. Rail deliveries increased from 1,069 to 1,500 tons arriving in Philippeville daily.

Success with generating more rail and wheeled traffic triggered a secondary traffic control problem, but the British line of communications command planned to establish two transportation sections in Philippeville to improve the flow of vehicles. More trucks traveling more miles also exposed the overarching problem with repair parts within the U.S. supply system. After a short tour of the administrative support areas at the end of March, Gale directed his staff to find or make suspension springs to keep the light truck fleet running. Once a source of supply was identified, Gale worked with the air staff to organize aerial resupply directly to the major maintenance collection points.¹⁹¹ By 27 March one could conclude that AFHQ had solved

¹⁹⁰ Diamond-T trucks with trailers that could haul the heaviest Allied tanks or dozens of tons of supplies each. This company would be directly controlled by 18th AG.

¹⁹¹ CAO Conference NA 24 Mar 43. This issue triggered the first conversations at the AFHQ level about centrally managing aerial resupply.

the distribution system across the theater. Trains could deliver 2,030 tons of military cargo to Philippeville daily, there was a U.S. reserve of 20,000 tons in the general area of the EBS based in Constantine, and Gale reported continued progress by Air Marshal Tedder in setting up an aerial resupply coordination center at the main headquarters in Algiers. In the last CAO conference in March, ordnance officers briefed that they had cracked the code on local manufacture of truck suspension springs and were handing the parts off to the air force for delivery to the forward repair shops.¹⁹² During April the issues raised in the CAO meetings dwindled to reports of exceeding the requirements needed to sustain the upcoming spring offensive and to routine administrative instructions. On 15 April the engineer representative at the meeting reported that the fuel pipeline running from Philippeville to Ouled Rahmoun had been tested and was ready to begin transfers of bulk fuel. The AFHQ had won the battle to establish a functioning theater supply and distribution network.

An Outsider's Impression of NATOUSA

Appointed the new NATOUSA commander in January 1944, General Jacob Devers was an immensely qualified outside observer who could assess the strengths and weaknesses of the U.S. theater command in its mature state. General Devers was appointed the deputy supreme commander for Allied forces in the Mediterranean and the commanding general of NATOUSA on 29 December 1943 while still serving in London. General W.B. Smith arrived from Algiers the next day and helped Devers prepare for his transition in a series of short meetings over the next six days.¹⁹³ Devers, Smith, and Gale flew from London on 4 January and landed in Algiers

¹⁹² CAO Conference NA 29 Mar 43.

¹⁹³ Official Diary of General Devers, entries for 30 December 1943 to 4 January 1944. Devers Papers, AHEC.

on 5 January to begin an orientation to the theater. By 8 January Devers had already decided that he was not impressed with the AFHQ rear headquarters or the NATOUSA staff, noting that they were disorganized and needed to become an efficient, cooperative organization.¹⁹⁴ His entry for 9 January included a harsh evaluation of Hughes, Rooks, Sawbridge, and Adcock, as well as the conclusion that Hughes had to go. He said: “We seem from preliminary survey to be extravagant in personnel in certain spots and very short in others.”¹⁹⁵ The specific concerns noted were too many casualties due to exhaustion coming from 5th Army in Italy and Clark’s inability to leverage the unemployed talents of Patton and Middleton while trying to do too much by himself. After a few days his opinion of his subordinates had changed a bit. He noted that he had good people but the NATOUSA staff needed to be reorganized and accelerate its tempo – Devers felt they lacked a sense of urgency. By mid-February Devers had eliminated Hughes’ position as deputy theater commander. He also developed a habit of spending more time in Italy in his role as the deputy SAC for the MTO than in Algiers executing his duties as the NATOUSA commander. Devers did not think much of the professional competence of Hughes, and he considered the two positions of deputy theater and COMZ commander redundant. Devers could run the NATOUSA staff, and Larkin could supervise the large SOS organization in the Mediterranean.

BG Larkin’s competence and effectiveness had caught the eye of Eisenhower. Soon after arriving at SHAEF, Eisenhower wrote to Devers asking if Larkin might become available for reassignment anytime soon.¹⁹⁶ Devers replied that same day to assure Eisenhower that Larkin would be needed for the foreseeable future but offering Hughes as unnecessary overhead that he

¹⁹⁴ Ibid, entry for 8 January 1944.

¹⁹⁵ Ibid, entry for 9 January.

¹⁹⁶ Cable Eisenhower to Devers 16 Jan 1944, SGS Cables, MTOUSA, RG 492, NARA II.

was comfortable parting with.¹⁹⁷ It was obvious that this offer caught Eisenhower off-guard; the position he had in mind was very different from what Hughes had done in North Africa and the Mediterranean. Eisenhower did not have any openings at SHAEF or ETOUSA commensurate with Hughes' position at NATOUSA. Eisenhower told Devers he would get back to him soon about the offer to transfer Hughes.¹⁹⁸ Eisenhower probably shopped the idea around within his inner circle and thought it over for about two weeks, deciding on 7 February that he would accept Hughes if Devers would release him.¹⁹⁹ Eisenhower decided to appoint Hughes as a free-ranging set of eyes and ears to find and solve logistical problems over the coming nine months. It is interesting that he did not make room for Hughes on the SHAEF, ETOUSA, or COMZ staff, probably because after being the deputy theater and COMZ commander at NATOUSA, this would have been something of an insult to his pre-war friend.

One can conclude from the actions and private comments of General Devers that he thought NATOUSA was redundant and could not justify the number of soldiers assigned to the organization. Devers made it clear that his responsibilities at NATOUSA did not warrant his undivided attention. His initial harsh evaluation of the command is not surprising; it was an organization maximized to handle routine administrative and logistical issues in the manner comfortable to General Hughes. The staff was competent and full of "good people"; they just needed a bit of time to adjust to Devers' preferred method of conducting business. Without the massive responsibilities held by his predecessor, Devers had more time to supervise NATOUSA himself, rendering the deputy command position unnecessary. Devers also quickly determined that NATOUSA could largely run itself, and he decided that he could make a more decisive

¹⁹⁷ Cable, Devers to Eisenhower 16 Jan 1944, SGS Cables, MTOUSA, RG 492, NARA II.

¹⁹⁸ Cable, Eisenhower to Devers, 19 Jan 1944. SGS Cables, MTOUSA, RG 492, NARA II.

¹⁹⁹ Cable, Eisenhower to Devers, 7 Feb 1944. Devers agreed to release Hughes that same day.

contribution to the Allied war effort by spending a good amount of his time visiting U.S. units in Italy and working with Wilson at AFHQ headquarters. Devers quickly decided that NATOUSA was top-heavy and as a result a bit too slow. Because it handled routine administrative interaction with the War Department and oversight of garrison activities in North Africa, AFHQ, 5th Army, and SOS were more operationally relevant locations for Devers to spend his time and contribute to victory. He did not abandon his duties in Algiers, but he discovered he could accomplish them using only a fraction of his time. Finally, when it came time for Devers to plan and prepare for Operation Dragoon, he followed an organizational model favored by Bradley and Montgomery over the orthodox approach advanced by the ASF and practiced by Lee and Hughes. Devers was a strong advocate of making his continental advanced section a subordinate element of the 7th Army and making his SOS command a subordinate of 6th Army Group during the first few months in southern France. With these decisions Devers demonstrated that he was aligned with the emerging consensus among combat leaders in Europe. As a group these senior combat commanders had internalized a fierce desire to synchronize their own logistical support, rejecting the theater SOS to ASF model favored in 1942.

“Lessons” from the Mediterranean

The Allied team that shifted from AFHQ to SHAEF brought a year’s worth of hardening attitudes about the right way to wage modern joint warfare. Three assault landings on the Italian homeland taught not only caution and the value of overwhelming firepower during the initial assault but also the importance of winning the battle of the buildup in its immediate aftermath. The Germans could be counted on to pour in mobile reserves and launch powerful counterattacks within days if not hours of the Allied landing. These counterattacks could only be stopped by a

combination of massive joint firepower covering the landing area, the efficient flow of reinforcements and supplies across unimproved beaches, and aerial interdiction that could slow down the arrival of German forces and supplies.

In addition to expanding concerns about German air and ground counterattacks once ashore, the second major outcome of operations in the Mediterranean was increased competence and self-confidence within AFHQ and growing authority in their engagements with the U.S. War Department and specifically the ASF. But as the nature of the sustainment challenge shifted in the Mediterranean, strategic logistics reemerged as the dominant concern, allowing operational logistical capabilities to sink to a secondary priority and dampening the imperative to prepare ETOUSA for that mission. Because the Allied lessons-learned process was at best semi-formalized, numerous insights provided by Operation Torch were missed or not acted upon with sufficient energy. The U.S. Army continued to argue about the proper mix of combat and sustainment troops, was slow to consolidate the power of the new transportation service, and found itself with two competing models for how best to synchronize maneuver and sustainment at the theater level. The opportunity to reevaluate the relationship between a joint-combined operational headquarters and the U.S. theater and COMZ/SOS structure was ignored. The chance to update doctrine in order to eliminate gaps, overlapping authorities, and clearly explain the official position on how to fuse combat and sustainment informed by a year of successful operations was not exploited.²⁰⁰

200 The fact that the U.S. Army went through the effort required to publish new versions of FM 100-10 and FM 100-5 in late 1943 and June 1944 suggests the institution believed this was important. The content of these two manuals was controlled at the highest levels of the Army; Marshall, McNair, and Somervell would have been aware of the effort and seen early drafts. The lack of fundamental change between the pre-war and mid-war versions is puzzling. It seems likely that the directive to publish up-to-date doctrine was not given the time, attention, and competent staff necessary to produce a cutting-edge product. If one was going to simply rubber stamp the ideas presented in the May 1941 FM 100-5 and December 1940 FM 100-10, why go to the trouble of publishing new versions at all? Walter E. Kretchik and William O. Odom provide helpful insight on how doctrine was created in

Sicily, Naples, and Rome: The Danger of German Counterattacks

If Torch offered invaluable lessons on sustainment and a protracted joint campaign, the landings against Italy showed the Allies exactly what they could expect from local German defenders confronted by assault from the sea. The ferocity and scope of the German response seemed to grow with each subsequent landing from Sicily, to Salerno, to Anzio in direct proportion to the strategic risk posed by Allied actions. The other problematic trend was the impact that German airpower could have in all phases of an assault landing and subsequent ground campaign, particularly in the first phase of an invasion. German fighters tended to operate from local fields while the Allies had to rely on carrier-based planes or fighters working at the end of their range. Allied air leaders knew that the Germans retained a large and effective fighter reserve defending the homeland, and elements of that force were available to reinforce France or Italy during the opening moves of an invasion. It was only in the spring of 1944 that the fighter strength of the *Luftwaffe* was broken over Germany, and most aspects of the Overlord plan were locked in before this shift occurred.

One might have assumed that planning for Husky was easier or at least more efficient than experience of planning Torch. But new sources of friction emerged among the different personalities due to the difficulty associated with getting senior leaders to pay much attention to something due to occur six months in the future. It did not help that the U.S. Army thought Sicily was forced on them against their will by the British at Casablanca, but the strategic value

the U.S. Army in the 1930s and 1940s. Both authors concluded that U.S. Army interwar doctrine suffered as a result of the system designed to produce it. The WD G-3 was given the responsibility but insufficient resources, while Leavenworth and the Army War College were well equipped for the task, but frequently boxed out of the process. A few success stories were the result of a strong leader at Leavenworth or the AWC seizing control of the system. The “distractions” occurring in 1943 and 1944 would have kept the WD G-3 and leaders at Leavenworth much busier.

of taking the island was beyond question. By eliminating the Axis air threat from Sicily, the Mediterranean would open to United Nations shipping, ending the need to detour around the southern tip of Africa. This would have the same effect as adding one million tons of merchant ships to the Allied order of battle. On 23 January AFHQ was directed to begin detailed planning for Husky based on a concept developed by the British Joint Planning Staff; 18th Army Group activated Force 141 under MG Charles Gairdner to coordinate the effort.²⁰¹ Gairdner soon discovered that he had been handed an almost impossible task.

Force 141 labored under three problematic conditions. First, Washington and London were invested in how operational planning developed. Second, the joint elements of the invasion force occupied physical locations in the Mediterranean spread out from Rabat, Morocco to Alexandria and Cairo, Egypt. Finally, almost no responsible commander at AFHQ, 18th AG, or 8th Army wanted much to do with the operation while still fighting in Tunisia. Gairdner did have one advantage with the addition of BG Arthur S. Nevins. Nevins was a U.S. officer who had worked with the JPS since April 1942. He was extremely familiar with the outline concept and knew the critical contacts in London necessary to work out the details and secure further support for the planning effort.²⁰² Despite these challenges, Gairdner managed to extract approval for his general concept in mid-March at a meeting attended by Eisenhower, Cunningham, Alexander, Tedder, and Spaatz. Miles Dempsey seemed to suggest that Montgomery was okay with the draft as well.²⁰³

This version of the plan was problematic, and it is surprising that no one raised any serious concerns during the meeting on 15 March. In trying to meet the minimum requirements

²⁰¹ Barr, 245-246. Atkinson, *The Day of Battle*, 53.

²⁰² Barr, 246.

²⁰³ *Ibid.*, 247-248. Force 141 would learn five weeks later that they had misunderstood Dempsey or Montgomery had changed his mind.

of the naval, air, and logistical planners, Gairdner had developed a concept that Montgomery informed him had “no hope of success and should be completely recast.”²⁰⁴ One can imagine Gairdner’s frustration; he had provided a copy of his draft plan to 8th Army in mid-February and worked with Dempsey to ensure that Montgomery had seen the document and supported the overarching concepts. The meeting with Eisenhower and the service chiefs had been a complete waste of time; the consensus hammered out since January was worthless. To add insult to injury, he could not get any of his superiors to force the issue or develop a viable alternative. Facing down the requirement to back brief Churchill and the British chiefs of staff on 6 April, Gairdner finally extracted a tentative approval from General Freddie de Guingand, Montgomery’s chief of staff, to a compromise the day before his travel.²⁰⁵ It probably came as no surprise when he was informed on 24 April that Montgomery had finally found the time to really study the plan for Husky and deemed it a recipe for a “first-class military disaster.”²⁰⁶ Montgomery was understandably concerned about the dispersion of the two landing forces; the British would land in the southeast followed by the Americans two days later at the western end of the northern coast. Montgomery also resented meddling by Washington and London in “his” tactical plan.

Facing a full-scale planning crisis for an operation set to kick off in two and a half months, Alexander called for a new meeting on 29 April attended by himself, Admiral Andrew Cunningham, Air Chief Marshal Arthur Tedder, Admiral Ramsay, Air Marshal Arthur Coningham, Patton, and the planners from Force 141. The 8th Army was represented by one of its corps commanders, LTG Oliver Leese, because Montgomery was sick in bed and Guingand was stuck in the middle of the desert after his plane crashed in Tunisia. The inability of the

²⁰⁴ Cable, Montgomery to Gairdner, 16 March 1943, quoted in Barr, 248.

²⁰⁵ Barr, 249.

²⁰⁶ Cable, Montgomery to Gairdner, 24 April 1943, quoted in Barr, 250.

largely British team to develop a mutually agreeable solution during this conference was a black mark against the leadership and authority of Alexander. Cunningham and Tedder would not accept Montgomery's ground plan, 8th Army sent no representative to develop an alternative on the spot, and Alexander refused to overrule either camp. Patton and Nevins watched on in amazement and despair.²⁰⁷ The impasse was broken on 2 May when Montgomery offered a new compromise that addressed the most significant objections voiced by the Navy and Air Force. Finally offered a workable solution, Eisenhower quickly approved the compromise, but the damage had been done. Barr argues that the methods Montgomery employed to change the plan and then ram his version through AFHQ and the CCS ended any hopes of maintaining a professional working relationship between the British air and sea leaders and Montgomery for the duration of the war.²⁰⁸

The compromise approved by Eisenhower on 2 May and by the CCS on 12 May triggered a final battle over Allied organization for the coming battle. Now three U.S. divisions would land in the Gulf of Gela, while to their right four U.K. divisions landed in the Gulf of Noto. At its peak the campaign called for thirteen divisions ashore, which was well within the span of control of a single army. As a result, Montgomery recommended, and Alexander approved, that 8th Army would control the entire operation, with Patton leading a corps under his command. Patton and W.B. Smith got word of these developments back to Marshall, who decided that a better solution was to expand Patton's I Armored Corps into the 7th Army once all six division equivalents were ashore.²⁰⁹ Recent British behavior had driven Marshall and Smith

²⁰⁷ Barr, 252.

²⁰⁸ Ibid, 251-255, 266.

²⁰⁹ Ibid, 255.

to the conclusion that U.S. divisions and corps would not serve under British control and that unnecessary overhead was a small price to pay to avoid being treated as second-class soldiers.

In hindsight, Allied operational planning for Husky was a complete mess. Patton and Marshall both considered the final invasion scheme too cautious, too risk adverse, and unlikely to finish the battle quickly or to hurt the enemy to the maximum extent possible.²¹⁰ Interference by Washington and London in the planning process provided a sense of urgency that 18th Army Group seemed to lack. Specific guidance from Washington also prevented Eisenhower from accepting one too many compromises by subordinating Patton to Montgomery. Alexander failed the AFHQ team by allowing British business to spill over into a public forum, forcing Eisenhower to do his job for him while ruining the relationships among Tedder, Cunningham, and Montgomery in the process. The entire episode captured Allied joint-combined operational planning at its low point. In the ultimate act of injustice, MG Gairdner, who had worked so hard to develop a functional plan acceptable to all the egos involved in the process, was sent back to London at his permanent rank of colonel, where he learned of the successful invasion of Sicily from the BBC.²¹¹

Sicily was defended by eight Italian coastal divisions, four infantry divisions, and two German armored formations with about 150 tanks and assault guns. Field Marshal Kesselring, the German theater commander, directed that reserve divisions would be scattered along the entire coast, ready to launch immediate counterattacks before any invaders could establish a secure hold on the shore.²¹² The Allies landed seven assault divisions supported by three airborne brigades on the first day of the operation, and met almost no resistance from the Italian

²¹⁰ Atkinson, *The Day of Battle*, 55.

²¹¹ Barr, 258.

²¹² Thomas B. Buell, et al, *The Second World War: Europe and the Mediterranean* (Wayne, N.J.: Avery Publishing Group, Inc., 1984), 229.

garrison divisions. The Allies landed 150,000 men supported by 4,000 aircraft on 10 July; the total force committed on Sicily eventually reached 478,000 troops. The Italian Livorno and German Hermann Goering divisions attacked the Americans coming ashore at Licata and Gela on the first day of the invasion but did not make much of an impression.

But on the second day problems developed around Gela on the U.S. 1st Infantry Division front. The official history of the U.S. Army operation in Sicily noted: “The delay in the arrival of the 1st Division’s supporting artillery and armor could be traced to enemy artillery fire, particularly in support of the various counterattacks, to enemy air raids against Allied shipping lying off the Gela beaches and to the poor beaches themselves.”²¹³ At one point on 11 July, three of four beaches belonging to the 1st ID were shut down by enemy artillery fire. Allied leaders worried because they knew from Ultra intercepts that the German and Italian armored formations, which threw over a dozen Tiger tanks and somewhere between 50 to 100 medium tanks against the beachhead on 11 July, were due to be reinforced by two additional divisions.²¹⁴ The battle on the 1st ID front was touch and go up until mid-afternoon on the 11th as the Livorno and Herman Goering divisions got within eyesight of the beaches only to be stopped by infantry, naval gunfire, less than a dozen U.S. medium tanks, and howitzers operating in direct-fire mode.²¹⁵ Failure on the 11th convinced the defenders to conduct a delay across the island, resulting in the last mobile formations crossing over the Strait of Messina on 17 August.

Success at Salerno hung in the balance during the initial Allied landing. Five U.S and U.K divisions numbering 55,000 men landed on 9 September divided into three divisions in the assault wave and two follow-on divisions. This force was met by the 16th Panzer Division in

²¹³Albert N. Garland and Howard M. Smyth, *Sicily and the Surrender of Italy* (Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1965), 159.

²¹⁴Garland and Smyth, 159. Elements of the German 15th Panzer Grenadier and the Italian Napoli Division.

²¹⁵Garland and Smyth, 170-171.

prepared defenses, which slowed the penetration inland to a crawl. By 12 September Kesselring had massed elements from four mechanized formations and launched a furious counterattack. On the first night after the American and British landings, enemy air activity picked up and armor was heard moving into position.²¹⁶ The Germans did heavy damage to three cruisers and one battleship during this action, employing radio-controlled glide bombs for the first time.²¹⁷ On 12 September the British and Americans lost 1,500 prisoners and General Clark was seriously worried about the level and composition of the resistance on the American front. Furthermore, according to historian Martin Blumenson, “German pilots sank 4 transports, 1 heavy cruiser, and 7 landing craft, and scored a total of 85 hits on the Allied fleet.”²¹⁸ This is how Eisenhower described Salerno four years later:

The landing and succeeding operations developed almost identically to the G-2 predictions.... The enemy, as was his custom, immediately began to counterattack and by the thirteenth had gathered up sufficient strength to make a major effort to throw us into the sea. The greatest pressure of the German attack came in the center and pushed forward to within two or three miles of the beach. The outlook became somewhat gloomy....²¹⁹

By 1800 on 13 September, a mixed German force was about four miles from the beach, opposed by only two American field artillery battalions and headquarters troops from Fifth Army while the British were pinned down by effective air attacks, artillery against the port at Salerno, and additional armored probes.²²⁰ The Germans enjoyed overwhelming tactical success on the 13th of September, convincing both the 10th Army and Army Group South commanders that the battle was won and the Allies would reembark soon.²²¹ General Clark adjusted his lines and

²¹⁶ Martin Blumenson, *Salerno to Cassino* (Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1969), 102-103.

²¹⁷ Thomas B. Buell, et al, 234.

²¹⁸ Blumenson, *Salerno to Cassino*, 106.

²¹⁹ Eisenhower, *Crusade in Europe*, 187.

²²⁰ Blumenson, 115-116.

²²¹ Blumenson, 117.

added a few thousand men from the 82nd Airborne Division with a combat drop onto the thin strip between the American front line and the sea and managed to drive off the few weak German attacks on the morning of the 14 September. The defensive battle on 13 and 14 September was admittedly a close-run affair that got all the senior Allied leadership's attention. An effective German pattern for dealing with expeditions from the sea had emerged, and Allied leaders considered it a realistic possibility that the Wehrmacht could throw anything but the most carefully prepared and resourced amphibious assaults back into the ocean.

Even though most of the Overlord command team had left the Mediterranean by the time it was executed, the landing at Anzio reinforced the emerging pattern of German reaction and Allied concerns with staying ashore once landed. MG John Lucas' VI Corps landed about three divisions of infantry on 22 January 1944 in his assault wave with two more divisions arriving over the next week. Kesselring cobbled together six divisions from Rome and the Gustav Line to hold the beachhead while three divisions rushed down from northern Italy. By 26 January elements of nine German divisions under the command of 14th Army confronted Lucas, with three more on the way from other theaters. General Alan Brooke and Churchill had first noted problems at Anzio on 28 January 1944, and by the 31 January Brooke was convinced that Lucas was being too cautious and that the Germans were reinforcing very quickly and decisively.²²² Lucas' careful probes on 30 and 31 January met fierce resistance, and by 4 February local German counterattacks had forced Lucas back into his original beachhead.²²³ General Mackensen, the 14th Army commander, launched a major counterattack on 16 February with over seven of the thirteen divisions available, including three mechanized formations.

²²² Alan Brooke, 517.

²²³ Blumenson, 393.

Mackensen enjoyed limited tactical success through the morning of the 18 February and inflicted 5,000 casualties on the Allies, but the integrity of the beachhead itself was never in serious danger.²²⁴ A second German attempt from 28 February to 3 March was also unsuccessful.

Eisenhower, Bradley, and Patton were aware of the operation, tracked its progress, and worried about its implications for Overlord. In his memoirs, Bradley mentioned the "...landing at Anzio on January 22, 1944, to which the Germans had reacted with astonishing fierceness," and the battle was obviously on Eisenhower's mind as well.²²⁵ In a 12 February 1944 diary entry, Patton mentioned that Eisenhower brought up the difficulties that the corps commander, MG John Lucas, was facing at Anzio and how it was affecting Mark Clark's Fifth Army and Alexander's Fifteenth Army Group. Patton's recorded response was: "I hope I don't have to go back and straighten things out."²²⁶ General Alexander had other plans. By this time, he was in something of a panic and on 16 February word reached Patton that he was to be sent to take over the beachhead and restore the situation. Eisenhower directed Patton to pack and board a special plane to do just that, only to have the request and order cancelled on the 17th.²²⁷

Anzio offered plenty for the Allied leadership to think about, reinforcing again the pattern that might be expected in France. The Germans had a large army scattered across Europe and available for almost immediate transfer to a threatened sector. Local reserves would pin an invasion while an armored strike force assembled beyond the range of naval gunfire and artillery. The Germans demonstrated at Anzio that they could move enough divisions to form an army with a dozen divisions in less than a week, and they could move supplies enough for a major offensive in two or three. Therefore, the first priority for any assault on France was to establish a

²²⁴ Blumenson, 419-423.

²²⁵ Bradley, 228.

²²⁶ Patton, 414.

²²⁷ Patton, 414-415.

secure lodgment packed with artillery, armor, and infantry, backed up by formidable aerial and maritime combat elements. Anything that could slow the German build up and wear down those forces before reaching the battle area would be critical to an eventual breakout. Operations on the mainland of Italy suggested this would all be a slow and dangerous process, at least at the operational level. After the beachhead was secure, there would be plenty of time to bring ashore service forces and repair the transportation infrastructure.

Official and Unofficial Lessons from Torch

After the war, LTG Leroy Lutes (the senior operations officer for the Army Service Forces command during the war) pointed out the similarity between the sustainment problems associated with Torch and those experienced in Overlord.²²⁸ At a speech delivered at the Army War College in January 1951, Lutes noted the fact that Torch provided an excellent preview of the headaches associated with supporting a large combined and joint force at the end of a long and problematic line of communications. Few ports far from the tactical front, long lead times associated with moving supplies from the United States and the United Kingdom by sea, aggressive enemy air defenders, not enough roads and rail capacity, and tough weather that favored the enemy all put in their first appearance in Algeria and Tunisia. The race to the plains west of Tunis was a close-run affair. In a reaction that would become a trend in all future Allied landings, the Germans managed to scrape together enough forces and put them on the right terrain in time to stop strung-out Allied forces that were suffering from rising logistical challenges. Despite the rapid provision of 5,000 trucks directly from the United States, Eisenhower could not maintain the momentum of his advance and accepted the need for an

²²⁸ Leroy Lutes, speech to Army War College. Lutes Papers, DDEPL.

operational pause to move up forces and work out his line of supply in order to deal with worsening weather and stiffening resistance.²²⁹ The insights Lutes shared in 1951 were correct, but had Allied leaders come to the same conclusions in 1943?

After the fact, numerous participants implied that the first setbacks in Torch were largely tied to logistical challenges. The official history of the campaign cited a report coming out of AFHQ near the end of the campaign: “The disproportionately low ratio of service to combat troops with which early operations in NW Africa has been undertaken was raised during the first four months of 1943.”²³⁰ Providing more service troops was only a part of the solution; the author of the official chronical of the campaign also suggested that a massive influx of trucks was necessary to fix the logistical imbalance in the Allied force in North Africa. “A special convoy arriving on 6-7 March 1943 brought more than 4,500 two-and-a-half-ton trucks into Casablanca and Oran. Other convoys brought more than 2,000 per month.”²³¹ Finally, rail lines were put into action to move bulk quantities of supplies from the three major ports to the depots immediately behind the army rear boundary. According to the author of the U.S. Army official history of the campaign:

A very large requisition for railroad rolling stock which was made when the Allied drive on Tunis failed in December began to be filled in March.... Before the end of April, forty-three trains, averaging over 10,700 tons daily, were passing through Constantine toward the combat zone. Expanded highway transport was essential for the accumulation of material for the Allied campaigns of the spring.²³²

²²⁹ Rick Atkinson, *An Army At Dawn* (New York: Henry Holt and Company, LLC, 2002), 171, 174, 183-184, 259, 260-261, 270. Dwight D. Eisenhower, *Crusade in Europe* (Baltimore, John Hopkins University Press, 1960).

²³⁰ Howe, 496.

²³¹ Howe, 496.

²³² Howe, 498.

General Anderson, the British commander of 1st Army, reinforced the message that logistics was a major factor in slowing the defeat of the Germans in Tunisia. Eisenhower later recalled: “The second difficulty was our great shortage in motor equipment, which was rendered all the more serious because of the very poor quality of the single-line railway running eastwards from Algiers to Tunis, a distance as great as from New York to Cleveland.”²³³ There was a truck shortage because senior commanders prioritized combat troops, tanks, and weapons for the French over service vehicles in the first four convoys arriving in North Africa. There was a service troop shortage because the ASF had not generated enough yet, and the British could not fill the gap. Both decisions were made at the highest levels of the Torch command group in September and October, and the implications should not have come as a surprise in January and February. Despite being a largely self-inflicted wound made much worse by the freeloading of the U.S. Army and the two air forces, the British Army claims they learned from the experience and prevented the reoccurrence of a major truck shortage in future campaigns. The official conclusion captured in 1954 was that: “The desert war was essentially one of rapid movement over great distances, and the core of its administrative problem was the provision and organization of adequate transport.”²³⁴ The official history of British logistical support in the West claimed: “Lessons learnt in the Mediterranean theater where shortage of transport had been experienced in the early stages of the invasion of Sicily, had duly been applied in the planning [of Overlord], and

²³³ Eisenhower, 116. Eisenhower goes on to clarify that the list of challenges associated with Torch listed in his memoirs are from a list provided by Anderson and forwarded to AFHQ during the campaign, not his personal assessment.

²³⁴ Wilson, 22.

a great many general transport companies RASC phased in early soon accumulated in the restricted bridgehead area.”²³⁵

Leaders seemed to be comfortable acknowledging the distribution problem but not in getting to the bottom of why it existed and its impact on the campaign. Oversimplifying logistical problems, perhaps hoping to deflect attention from questionable decisions and tactical shortcomings, made it harder to figure out what really went wrong and how to fix it. Even if this deflection was not deliberate, it hampered the search for better information, an understanding of what went wrong when, and the impact on operations. This sort of understanding is the result of a deliberate lessons-learned program; it doesn't happen by accident, and it takes time and effort. The Allies had some blind spots when it came to collecting lessons from the battlefield that made a difficult process that much harder.

The campaign in North Africa was an experience that should have offered data and validated procedures that might be helpful in future campaigns – not just lessons applicable for logisticians. AFHQ followed good bureaucratic procedure and passed along courtesy copies of important documents to their subordinates, fellow Army theater-level commands, and superiors in Washington and London.²³⁶ The problem was that the training memoranda published by the senior headquarters in the theater were focused at the most minute level. They tended to be written by external agencies or attached observers, not gathered from within the organization itself. Training memoranda 44 and

²³⁵ Carter and Kann, 285.

²³⁶ Decimal File, Lessons Learned, and CAO Meeting Notes, AFHQ. RG 492, NARA II. The lessons learned files were always provided to the War Department, Army Ground Force, Southwest Pacific Area, U.S. Army command in China, and each staff section within ETOUSA, among others. Official lessons from the Mediterranean were made available to the rest of the U.S. Army.

50, covering the Tunisian campaign and Sicily, were thorough and professional attempts to share critical training deficiencies with the training base back in the United States and the United Kingdom, but there was no similar effort to assess performance at higher echelons.²³⁷ These collections of lessons were split into two stand-alone references, one from British authors and the other gathered from American sources. They provided a very brief overview of planning and operations before examining the tactical details. Comments were broken down by branch and covered individual and low level (squad and platoon) collective tasks that were essential to success or poorly performed.

In the few examples where the subject was higher-level planning or execution, the quality of assessment suffered due to limited access to senior leaders, insufficient rank and experience, or a focus on too small a time window. A British observer sent into theater by the British Combined Operations Command bounced from 15th Army Group to 7th Army to 3rd Infantry division in the months before the invasion of Sicily. Since he spent most of his time with a division, the focus of his lessons was at the tactical level. Admiral Cunningham endorsed a six-page assessment of Torch from his headquarters, but the staff limited their focus to the beach assault and dismounting efforts, ignoring naval support to the campaign after that point.

Lessons applicable to higher headquarters or sustainment were sprinkled throughout these documents. COL Ramsey offered “that there should be included in staff manuals (after further study) a clearer delineation of functions partially outlined in [the] attached Functional Chart.”²³⁸ The functional chart was not included in the file copy of

²³⁷ MTO Lessons Learned File. RG 492, NARA II. Training memo 44 was published on 4 August 1943 and training memorandum 50 was published on 20 November 1943.

²³⁸ NARA, RG 492, Memo from HHC Commander to AFHQ CoS, 3 Feb 1943.

his memorandum, but one can guess that the division of labor, both at AFHQ and between AFHQ and subordinate organizations in theater, could have benefited from additional detail. The report submitted by 18th Army Group at the end of the Tunisian campaign addressed army group-level lessons learned, to include the value of a deputy commander for administration to work the seams between the AFHQ staff, the army group staff, and the various base sections providing logistical support in North Africa. The 18th AG also pointed out the value of adding a statistics group within each Q branch (G4 or logistics) to at least the army level, to track historic consumption rates and maintain accurate inventory of supplies on hand.

A similar report by 1st Army, published in July 1943, validated just how important logistical considerations were to the success of combat operations and how necessary the strength and ratio of service troops was to support a base and enable inland penetration. The Army benefited from assigning small liaison teams to each British base and sub-base command, but it realized that AFHQ should have taken over direct management of the LoC well before 1 January. The 1st Army lacked the resources and authority to synchronize the traffic on the line of communications generated by French, RAF, Navy, Army, and civilian-focused units. The report implied that the two most significant challenges to sustainment in the 1st Army area were a massive breakdown in long-range communications and poor supply discipline by front-line units. Looting, hoarding, and inaccurate reporting caused more headaches than any overall shortages.²³⁹ Challenges with distribution were much harder because the Army could not figure out what critical

²³⁹ 1st Army, "Administrative Lessons of the Campaign in North Africa", 5, 6-7.

shortages existed among the combat units and then convey those needs to their higher headquarters or their liaison teams in each base command.

Other lessons could be extracted if one knew where to look. The British observer assigned to 3rd ID noted how effective the DUWKs were at unloading assault and cargo ships across assault beaches, forecasting a day when ports might not be necessary to sustain a large ground force, at least under favorable weather and sea conditions. The U.S. 2nd Armored Division commander pointed out concerns over the lack of organic truck companies within the division near the end of the campaign when the division was 140 miles from its supporting depot. Patton, while commanding II Corps and Seventh Army, learned that he needed his own transportation service section at the army level. Patton's staff submitted a formal request through the MTOUSA staff up to the ASF at the end of the Sicilian campaign asking for this authorization. The ASF and War Department denied the request, and Patton resourced a transportation section by robbing personnel from other offices across his staff. Almost ritualistically 5th and 7th armies would resubmit the request at the end of each amphibious operation in theater, only to be shot down each time by ASF and the War Department.²⁴⁰ Fifteen officers and 24 enlisted personnel were evidently too steep a bill; they would have to be found from within the command by merging with liaison elements pushed forward from the SOS or COMZ.

This battle over adding a transportation staff section at the Army level marked a new reality that was obvious to those in combat in the Mediterranean, but harder for the War Department to understand. The requirement for transportation experts, a new

²⁴⁰ Request "Transportation Staff Requirements for Field Armies," 3 June 1944. Transportation Section, MTOUSA, RG 492, NARA II. Attached to the latest request were references to the same request stretching back approximately fifteen months, to include detailed descriptions of the duties performed by the ad hoc transportation section in 5th Army since the invasion of Italy.

service activated in the U.S. Army in late July 1942, had become clear by the end of the Tunisian campaign. The scope of the mission to synchronize all transportation, but especially wheeled transportation, was massive even in the relatively modest enterprise of Operation Torch. While preparing General Gale for a press conference in May 1943, the command produced a sobering set of figures for quick reference that demonstrated just how far the Allies had come since 8 November.²⁴¹ After fighting over virtually every truck loaded on the assault convoys, AFHQ eventually unloaded over 100,000 vehicles of all types at the three major base areas, with 57,000 discharged at Algiers alone. Over the duration of the campaign the Allies moved a daily average of 3,342 tons of POL products representing 60% of the total weight of supplies imported into the theater. When fully established the supply distribution system relied on 1,200 trucks working in the base areas, 1,800 shuttling along the line of communication, and 1,750 moving between the sea and rail heads and the forward tactical dumps, in addition to the 6-8 trains per day. Finally, U.S. forces alone were equipped with 21,000 trucks pulling 6,977 trailers, 1,100 tracked armored vehicles, and 1,666 half-tracks and reconnaissance vehicles.

These figures spoke to both the scale of modern combat and the disconnection between Allied capabilities during the first month of the campaign compared with what was required for victory. The U.S. Army landed twelve truck companies, or about 600 vehicles, at both Casablanca and Oran between D+3 and D+11 to accomplish all port, depot, and line of communications work for the WTF and CTF.²⁴² They were followed

²⁴¹ One-page fact sheet included in a file gathered to help LTG Gale prepare for a press conference in early May 1943. CAO files, AFHQ, RG 331, NARA II.

²⁴² Dworak, 91. Weller, 273. 200 trucks were dedicated to clearing the docks, but many of the first trucks to arrive were broken due to faulty waterproofing procedures. Two battalions of the 28th QM Regiment landed at Oran and two battalions of the 22nd QM Regiment supported the WTF at Casablanca.

by thousands of crated trucks in subsequent convoys, but there was no associated supply of drivers, mechanics, or command and control elements to supervise their work and coordinate their support.²⁴³ Provisional companies and battalions were formed from available, if untrained, manpower. One positive outcome of the experience in Torch was the discovery that battalion and regimental headquarters organizations for the QM truck companies were unnecessary. The platoons and companies tended to be attached to and work for other organizations, rendering the battalion and regimental personnel redundant. In 1943 the U.S. Army decided to eliminate higher headquarters and just stick with truck companies that could be assigned to base commands or coordinated by Transportation Corps staff sections located throughout the force.²⁴⁴

The one-year anniversary of the SOS / ASF letter written and distributed by LTG Somervell in March 1943 captured the major issues the command was trying to tackle.²⁴⁵ After enumerating accomplishments of the Service of Supply during its first year, Somervell turned to five areas of concern and focus for the command. Challenges associated with maintaining a massive fleet of vehicles scattered around the globe, combined with an immature spare parts system, were the most pressing issue facing the ASF. Other concerns included simplifying and unifying both the paperwork and procedures associated with inventory visibility (“stock control”) as well as management techniques and methods in general. Because it seemed that global shipping would never keep up with operational demands, Somervell counselled leaders to think through how they could balance the doctrinal preference for push-based logistics with a greater appreciation for critical requirements. How could service-force staffs and commanders

²⁴³ Weller, 275-276.

²⁴⁴ Weller, 280, 375.

²⁴⁵ Message from LTG Somervell to SOS Leadership, 10 March and distributed on 16 March. SOS, NATOUSA, MG Larkin File, RG 492, NARA II.

improve estimates of consumption, understand what was already in or headed to the theater, and cut back on the flow of routine shipments to prioritize only what was necessary? Finally, Somervell cautioned all his commanders to watch the growth of service troop requirements and billets on staffs, especially when they produced unnecessary replication and overlap with other sections or forces. Every officer or soldier who was in the ASF was a man not available to fight the enemy. AFHQ felt the impact of all these issues in 1942 and 1943, and most of the same problems would plague SHAEF and ETOUSA in 1944. The ASF did not use the November 1943 update to *FM 100-10* as a tool to share these insights and establish methods to deal with them. New doctrine could have played a role in clarifying exactly who was responsible for what in the administrative realm, and the detailed relationships between sustainment nodes in the combat zone, the communications zone, and the theater headquarters. As we have already seen, the 1940 version of *FM 100-10*, and the update published in late 1943, actually recommended three or four headquarters with similar if not identical jobs while avoiding any discussion of how all the centers listed in the manual related to one another.

Striking the Right Balance of Service Forces in the Mediterranean

Going into the campaign, Eisenhower and Somervell knew that too few service troops were available to support the operation. As the communications zone normalized from February to April 1943, ASF headquarters sought a better appreciation of what arrangements had worked themselves out in theater. The flurry of messages among ASF and AFHQ, NATOUSA, and MTOUSA demonstrated that the theater had not been tracking numbers to a level of detail helpful to ASF. Three data points, captured in the chart below, were provided to ASF before MTOUSA gave up and ignored further requests. The report provided on 2 October 1943 is

helpful because it demonstrated a close approximation of what the right ratio of combat, aviation, and service troops should be to support future planning. It is highly likely that even the aggregate numbers were inaccurate; the figures provided for the ground troops most likely include service forces at the division level and below and ignored the fact that combat troops were often impressed as improvised drivers and ammo handlers. Regardless, a 3:1:1 ratio began to emerge as a realistic planning figure for what it took to run a large-scale theater.

| | 23 Jul 43 | | | 2 Oct 43 | | | 18 Oct 43 |
|-------|-----------|-----|-----|----------|--------|------|-----------|
| | AF | Gnd | SOS | AF | Gnd | SOS | |
| ABS | | | | 2.3k | 2.2k | 12k | 46,000 |
| MBS | | | | 18k | 83k | 72k | 178,000 |
| ESB | | | | 60k | 45k | 37k | 35,000 |
| IBS | | | | 29k | 150k | 3k | 25,000 |
| Italy | | | | 4.4k | 80k | x | |
| DUKO | | | | | | | 277,000 |
| OHAM | | | | | | | 57,000 |
| Total | | | | 113.7k | 360.2k | 124k | |
| Total | 421.4k | | | 604, 515 | | | 618k |

Table 2.3: G-4 MTOUSA estimates of U.S. personnel in theater by base provide support

ABS – Atlantic Base Section, Casablanca
MBS – Mediterranean Base Section, Oran and Algiers
EBS – Eastern Base Section, Constantine, Tunis-Bizerte
IBS – Island Base Section - Sicily
DUKO – port in Italy
OHAM – port in Italy

This second table reinforces the conclusion that service forces, by necessity, formed a large portion of the U.S Army overseas. By 23 July the invasion of Sicily was well underway, once again hampered by a disproportionate number of combat troops relative to service troops deployed. The ratio in theater was probably 2 to 2.5:1 in July, and probably a better estimate of the proper ratio than the table above. The essential point is that expeditionary warfare demands

large numbers of service forces and personnel. It is also interesting to note that the ground forces would have plenty of professional logisticians and service officers available for consultation.

The same cannot be said of the SOS's access to combat branch officers. It would be almost impossible to prevent two very different cultures emerging between more balanced headquarters and those dominated almost exclusively by service officers and NCOs.

| | Branch Officers | Service Officers | Branch EMs | Service EMs |
|----------------|-----------------|------------------|------------|-------------|
| Ground Force | 13.4k | 2.99k | 235k | 160k |
| SOS Formations | 32 | 9,379 | | |

Table 2.4: Distribution of combat vs support personnel, 23 Jul 43

Branch – combat arms;

Service – supporting units such as quartermaster, transportation, ordnance, medical, etc.

Extracting and Disseminating Lessons

Informal lessons facilitated by open lines of communication among senior leaders were helpful, but the Allies also established organizations and observation missions to collect and disseminate data collected in the field. Very similar to the training circulars issued by AFHQ after Torch and Husky, documents with tactical lessons learned were published periodically by many different sources in the Mediterranean. The Long Committee was one such effort.²⁴⁶ The report was written by staff at the Combined Training Center (North Africa) and published in October 1943. It was a professional effort overseen very closely by the center's commander, Brigadier H. Long. Husky and Avalanche drove the Long Committee to examine all amphibious operations as two equal and linked endeavors: One was to land in the face of enemy resistance and then survive local counterattacks, and the other was then to win the race to build up heavy

²⁴⁶ "The Long Committee Report" October 1943. Operational Lessons Learned, Commander's File, RG 492, NARA II.

equipment, supplies, and additional combat power to ensure that the lodgment survived and then became capable of breaking out. The term adopted by the British for this second phase was “transit and maintenance.” Experience in over a dozen amphibious assaults convinced them that meticulous organization, specialized equipment, and unique engineer and fire support units were the key to winning it. Worth special mention were the engineer “beach groups” that combined the ability to clear obstacles, to communicate with all elements of the joint team, and to direct traffic on the beach and immediately inland.

The contrast between the Long Report and the official lessons document for Shingle – the landings at Anzio – could not be more pronounced. An unidentified observer, but clearly a junior officer, produced a five-page memo that managed to say almost nothing of substance. In the author’s defense, the limits of his mission did not help; he was present for only the first two days of the operation and watched an administrative disembarking of two Allied divisions along undefended beaches. One finds plenty of evidence of the effort to embed observers and gather lessons, but most of the Allied observer reports sent from North Africa and the Mediterranean focused at the tactical level. Some were very well written and offered deep insights. Others were superficial.

The lessons process consisted of two distinct tasks – to extract, collect, and publish validated lessons from the combat theater, and to disseminate those lessons to both the training base and units already deployed to operational theaters. There is ample evidence that both the British and the Americans did well with the first task, at least at the individual and lower tactical level. But interviews, diaries, and unit historical records have led one researcher to conclude that front-line units were oblivious to anything other than TO&E changes and training circulars from their higher headquarters. Professional journals, updated manuals, regulations, or compilations

of lessons learned did not penetrate down to the level of the commander of a truck company.²⁴⁷ Officers did remember being interviewed by or seeing observers from the ASF and AGF, and the Army succeeded in rotating seasoned leaders from combat zones back to the training base, but these were strictly one-way endeavors. This problem was compounded by the fact that very few service units, and no truck companies, were transferred from NATO or MTO to the ETO before Overlord. Sharing successful techniques could only happen by word of mouth, personal and official correspondence, and the transfer of senior officers into new positions.

The British benefited from an organizational norm that encouraged periodic self-evaluation at the army and army group levels. There was a series of dual reports, one focused on operations and a second on administrative procedures, compiled by British commands to capture insights at a higher level of responsibility. We have already examined the notes published by 8th Army in February 1943 covering administrative support to the army during the pursuit from Alamein to Mareth. It is important to remember that it was paired with a similar document covering tactical and operational combat lessons and that both papers were briefed during a three-day conference in Tripoli with AFHQ and probably 18th Army Group and 1st Army participation. AFHQ published a short training circular on 19 March 1943 titled “Administrative Training” aimed at replicating the reality of resupply in small combat-arms units, advising units to practice the steps necessary to request and distribute supplies and recover damaged vehicles. The real purpose of this directed activity was to restore confidence in the responsiveness of the theater supply system and thus to reduce hoarding among front-line units.²⁴⁸ The AFHQ

²⁴⁷ Weller, 383-384, 401.

²⁴⁸ “Administrative Training” AFHQ Training Memo 21. AFHQ File, RG 331, NARA II.

published training guidance frequently, conducted retraining on a regular basis, and realized that resupply and recovery were critical combat enablers.

The 1st Army published its own “Administrative Lessons of the Campaign in North Africa” on 27 July 1943, followed two months later by “Notes on the Administration of Armies in the Field” from 15th Army Group. In a cover letter to the second document, MG C.H. Miller, the deputy commander for administration in the Army Group, explained that the command had distilled lessons from North Africa from 1940 to 1943. General Miller hoped it would be of use in updating doctrine and training in the United Kingdom, and distributed copies to the Ministry of War and U.S. War Department. Approximately 1,000 copies of “Lessons from the Tunisian Campaign” produced by 18th Army Group on 6 August 1943 were distributed to about one hundred organizations. For all three documents, General Gale demanded a written reply from every staff section under his supervision, due in no more than three weeks.²⁴⁹ We know the task was accomplished because the responses are saved in the CAO records from AFHQ. The responses from the AFHQ sections are helpful because they demonstrate where 1st Army or 15th AG (18th AG at the time they interacted with AFHQ) got their facts wrong or recommended solutions that were impossible under prevailing conditions, but they also show where the sections agreed or could offer or refine proposed solutions. These responses demonstrated that AFHQ was reading the input from the field and adopting changes they considered logical and necessary. It is fair to say that the British had a reliable system for producing periodic higher-level assessments of recent operations and that they expended the energy to ensure that their superior headquarters were aware of their conclusions.

²⁴⁹ “Notes on the Administration of the Armies in the Field”, CAO Files, AFHQ, RG 331, NARA II. Copies of the 15th AG report are followed by the tasking letter from General Gale and then a collection of staff responses. The microfilm collection of the AFHQ documents maintained at NARA is poorly organized and labelled, and many individual sheets are illegible.

The American approach was different, and it produced two distinct types of publications intended to be released on dissimilar time horizons. As shown earlier, the U.S. Army tended to rely on observation teams from the AGF embedded for a short tour that then produced detailed notes on training deficiencies broken down by branch and service. The products were comprehensive, but they tended to focus on individual, squad, and platoon tasks. An example of this process within the logistical realm was the report “Administrative Lessons of Operations in Sicily,” published around 2 November 1943 by AFHQ, but edited by the ASF liaison to NATOUSA, COL H.W. Bolan. The document was dominated by a discussion of the challenges presented by mounting the assault force and unloading supplies across the beaches during the first few days of the campaign while ignoring sustainment planning and execution above the army level. The second process institutionalized in large units of the U.S. Army was the ongoing preparation of official histories, often written by professional military historians attached to the command. The quality of these documents tended to be excellent, but they did not dwell on capturing successful techniques and procedures. The other problem with trying to substitute unit histories for a lessons-learned program was that the documents were not finished quickly enough to permit distribution before the next operational cycle. This is not meant as criticism of the unit history program but as a statement of the fact that documents written for one purpose were insufficient to drive rapid organizational change. For whatever reason, the U.S. Army wrote great unit histories but did not generate higher-echelon campaign assessments to be shared in official channels.²⁵⁰

²⁵⁰ One cannot find official campaign assessments for II Corps, 5th Army, or 7th Army, endorsed by General Patton or General Clark. Nor do such documents exist for the base commands, SOS, or NATOUSA itself. There are official histories published within a few months of the end of the campaign that contain an element of self-evaluation, but they are very different from, and less helpful than the British lessons written at the army and army group level.

Perhaps because of the nature of published U.S. lessons-learned documents, Eisenhower took steps to ensure that his team had frequent access to first-hand witnesses from recent operations whenever possible. In March Eisenhower asked Marshall and Devers if MG Lucas could swing through the U.K. on his way back to the United States.²⁵¹ Lucas had just been relieved of his command of VI Corps in the Anzio beachhead and was being transferred back to a training command within the Army Ground Forces. Eisenhower wanted to ensure that he and his staff heard firsthand the latest tactical developments associated with amphibious assault landings and the subsequent German reaction. This request demonstrated that, even if the Army did not publish critical self-assessments at the higher levels of command, Eisenhower valued the thoughts of his professional associates, especially face to face and after a bit of time for reflection. Lucas doubtlessly reinforced SHAEF concerns with the speed and ferocity of German counterattacks and may have contributed to the idea that pushing them back was a slow process that had more in common with France in 1918 than with the armored thrusts of the first three years of World War Two.

Larkin, the SOS commander of NATOUSA, traded periodic cables with MG Leroy Lutes, the chief of operations for ASF. His update in October 1943 assured Lutes that he had his staff working on improved logistical planning factors and consumption rates, but it also showed him that the field needed help with better systems to manage repair parts.²⁵² Larkin also admitted that he had mountains of unnecessary supplies scattered across North Africa and was working to catalogue and offer it up for distribution back to the U.S., other theaters, or allies as directed. Lutes had written Larkin earlier, explaining the logistics situation in other U.S. theater

²⁵¹ Cable, Eisenhower to Devers, 4 March 1943, SGS Cables, Commanding General, MTOUSA. RG 492, NARA II.

²⁵² Letter from MG Larkin to MG Lutes (ASF), 24 Oct 43, MG Larkin File, SOS, NATOUSA. RG 492, NARA II.

commands, pointing out the priorities and challenges unique to each and common to most. Lee watched NATOUSA and tried to learn from their mistakes, seeking to organize ETOUSA to avoid the difficulties faced by Larkin and Hughes.²⁵³ He prioritized attending the Casablanca conference in January 1943 and maximized the potential of the trip by visiting Patton and Montgomery to listen to their observations and recent experience. Senior leaders maintained written contact, tried to share lessons learned, and visited the front when they could find the time. It was obvious that leaders in the U.S. Army logistics community understood the imperative to constantly seek improvement and benefit from the experiences of their peers and subordinates.

There was one overarching trend observed in amphibious operations throughout the Mediterranean that was not explicitly stated by any of the senior participants, and this is surprising. The Long Report provided a useful framework that most Allied leaders adopted, even if they did not know the original source. But the authors of the Long Report, or some other committee, should have noticed the third and fourth phases of Allied amphibious operations: attrition and breakout. In Tunisia, southern Italy, and Anzio the Allies eventually won the race to build up the beachhead, often by simultaneously interdicting the German sea-, air-, and land-based lines of communication. Slow, steady attritional warfare accelerated the collapse of the Axis defense, and a successful Allied breakout was the result. This successful formula was not explicitly described by any senior officers in the Allied command but had to be obvious by early June 1944. Their preference for attritional warfare, if widely understood, would drive commanders to focus on interdiction of German supply lines, and tactical methods designed to inflict disproportional casualties during ground combat. In Normandy, SHAEF expended a lot of

²⁵³ Lee, "Service Reminiscences," 87.

airpower trying to isolate the Germans and prevent the arrival of reinforcements and supplies, and the British (especially Montgomery) continued to favor the short, set-piece battle that used artillery, airpower, and overwhelming numbers to inflict disproportionate casualties.²⁵⁴ These two techniques were part of the orthodoxy carried to France from the Mediterranean, if perhaps only subliminally.

Conclusion

By May 1943 AFHQ was well on its way to becoming an effective joint-combined operational headquarters. In many ways this process was sped along by the operations planned and conducted between June and December 1943, but it was also overshadowed by the criticality of the initial beach assault and the need to weather the inevitable German counterattack. As the Allies restored and improved the infrastructure in the Mediterranean, the memory of just how difficult it had been to move and sustain forces in Tunisia faded. Before combat operations wrapped up in Africa, the Allies had managed to organize their forces logically in three service commands that were capable of planning, executing, and sustaining campaigns within their own domains. If properly led by AFHQ, they were capable of synchronizing among one another. Problems existed within the ground command due to the unique personality of General Montgomery and the accommodating leadership style of both General Alexander and General Eisenhower. This increased the difficulty of synchronizing ground operations and integrating them with naval and air actions in a timely fashion. This was compounded by the growing

²⁵⁴ I would argue that Montgomery's method of 1942 to 1945 was really the modern application of Monash's method from the Western Front in 1918. The way Montgomery managed the battle around Caen in June and July 1944 compares remarkably well to the British limited offensives of the last few months of World War One on the Western Front. See Jonathan Boff's *Winning and Losing on the Western Front: The British Third Army and the Defeat of Germany in 1918* (Cambridge: Cambridge University Press, 2012) for an excellent assessment of how and why the British succeeded. Chapter five addresses the final tactical methods adopted by the British as the ideal for the offensive.

realization that keeping U.S. and U.K. tactical units separated at the corps level and below made life considerably easier.

AFHQ was considerably more effective as a senior-level staff themselves. Its British and American service members had learned to work together and had grown to the point where it could perform its critical functions as a joint and theater command. The existence of three consolidated service commands and two national administrative commands meant that the headquarters could concentrate on a narrow range of activities that they were uniquely empowered to address, while supervising their five subordinate organizations as necessary. The experiment in managing logistics at the senior headquarters level had failed, replaced by a more conservative approach centered on control by the army group staff on the British side and by the formation of a SOS under NATOUSA control on the American side. Regardless, Eisenhower and his subordinates had learned that one ignored logistics, strategic and operational, at great peril. Once fully matured, NATOUSA removed a large administrative burden from AFHQ, but most of the important functions of a U.S. theater headquarters were carried on at the joint-combined level, even when they exclusively involved American organizations. Routine matters flowed through the SOS, NATOUSA, and the ASF, while issues of great consequence flowed through AFHQ to the OPD, British ministries, and combined chiefs of staff. Between Husky and Shingle AFHQ planners matured to the point where they no longer needed War Department or Joint Planning Staff assistance with campaign plans and tactical orders, but strategic direction and operational objectives still flowed from London and Washington to the field command post.

The Allied lessons-learned process was complex and effective in accomplishing some of its goals. It tended to do a better job finding problems with individual and small-scale tactical tasks that were reported back to the British Home Army and AGF to influence future training.

The British Army had a strong tradition of periodic self-assessment at the highest levels of command that produced a professional and well-distributed product. U.S. reliance on embedded historians compiling unit histories generated a more thorough picture of exactly what happened and why, but these documents took months to write and did not focus on capturing organizational techniques so they might be shared across the force. They were unit histories, which could not completely cover the gaps within the lessons-learned system of the U.S. Army. In both systems some problems were overlooked, incorrectly diagnosed, or left as unsolvable with the time and resources available at the time. Perhaps the greatest shortfall of the Allied lessons-learned system was its absence of meaningful effect on capstone doctrine and cross-theater sharing of detailed SOPs. AFHQ and its subordinates had come a long way by the end of 1943, but that knowledge tended to stay contained within the Mediterranean and make little impact upon the organizations planning and preparing to return to France. But NATOUSA would benefit from its combat experience, and Devers and Larkin would see the benefits in southern France while leading the 6th Army Group.

Chapter 3 - Trying to Define Roles within the ETO

This chapter tackles two major subjects. The first half addresses the evolutionary arc of thinking within the Army about control over logistics and its integration with the other functions, but primarily maneuver, as it unfolded in the European theater. At the beginning of the U.S. Army's involvement in World War Two, senior leaders in the War Department shared a consensus based on one interpretation of the lessons distilled from the interaction among Washington, Pershing's theater headquarters, and his service of supply under its final commander, MG Harbord. But two-and-a-half years of practical experience resulted in a revolt against the concepts governing sustainment that had been adopted in the summer of 1942. By the end of the war there was a general agreement that U.S. command and control in the ETO had been problematic, but no consensus on exactly what should have been done differently. Only by combining the official and private assessments, suggestions, and alternative systems offered by almost a dozen well-placed observers can one gain an appreciation of the overall problem and viable solutions. Just knowing that there were so many different ideas about what was wrong and how to fix them is illuminating. The first step in solving a complex challenge is to define the problem, and the second step is to build consensus on the nature of the issue and the best way to tackle it.¹ Because the U.S. Army did not accomplish this first step in the ETO during World War Two, constructive adaptation in the Mediterranean, U.K., and France was that much harder.

After establishing a baseline understanding of the two philosophical approaches to command and the proper agency to integrate logistics, the chapter moves on to a chronological

¹ Horst W.J. Rittel and Melvin M. Webber, "Dilemmas in a General Theory of Planning," *Poly Sciences* 4 (1973): 161. Defining the problem in this context means isolating the independent variables that are producing the undesired result, while also fleshing out a theory on how to change those independent variables to generate a new result.

narrative of the U.S. Army theater-level agencies charged with synchronizing the American effort in the U.K. Understanding the intellectual debate within the U.S. Army over command and control and synchronizing logistics at the theater-level reveals the scale of periodic changes to ETOUSA's role and formal authorities. The story of ETOUSA is also the story of the two commands that preceded it, and the three joint-combined headquarters with which it cooperated. ETOUSA emerged from the U.S. Special Observer Mission (SPOBS) and the U.S. Army Forces in the British Isles (USAFBI) and inherited much of their culture. At various stages ETOUSA coordinated its activities with AFHQ, COSSAC, and finally SHAEF, and it had a convoluted subordinate relationship with the commander of each unit. ETOUSA did not just appear on the stage with complete freedom to determine how it would operate. Even as it began to evolve, the organization was forced to make major adjustments to conform to the personality of new commanders or redefined relationships with new superior headquarters. ETOUSA emerged from bureaucratic irrelevance to play an important role in preparing the Allies for Overlord in the summer of 1943, only to be subsumed again by the rise of COSSAC, SHAEF, and the U.S. First Army Group (FUSAG) staff in the last quarter of 1943. ETOUSA was boxed in by a theater joint-combined operational headquarters above and large tactical formations below, and the U.S. Army acknowledged its redundancy by merging it with SOS on 17 January 1944.

ETOUSA's lifecycle illustrated perfectly the gaps in logic in U.S. doctrine and the structural implications of ongoing theater-level combat operations. The reorganization of the War Department that was completed in the spring of 1942 created strong subordinate organizations that would unsurprisingly seek to undermine the authority of theater commands as they oversaw air and administrative operations overseas. The growth of ETOUSA from SPOBS and USAFBI meant that the organization inherited much of the culture and reputation of its

predecessors. MG Chaney and his staff were perhaps a bit too close to their British partners; some could conclude they had gone native. The USAFBI's staff was too aware of the realities associated with moving men and equipment into the U.K. by May and June 1942 to quietly accept some of the more fantastic proposals emanating out of Washington, D.C. Their skepticism was validated by the difficulties encountered while trying to mount the American forces already in the U.K. for their participation in Torch. Establishing a base area in a foreign country while simultaneously outfitting and supporting an amphibious assault force was evidently harder than it looked to the War Department.

Over the next eighteen months ETOUSA struggled to define its role under a succession of three commanders. U.S. doctrine and War Department guidance had little to say about a theater command focused on a troop buildup, long-range planning, and integration of U.S. assets into the British air campaign rather than active ground combat. Even Eisenhower and Andrews, men with solid reputations in Washington and good relationship with Marshall, struggled to be more than unnecessary middlemen between the OPD, ASF, and AAF and VIII Bomber Command, Lee's SOS, and the British. But this began to change with the arrival of General Jacob Devers and the corresponding emphasis on Roundup and the strategic bomber offensive, which in turn demanded a powerful arbiter among the three components of ETOUSA necessary to establish theater priorities. Devers had the experience and personality necessary to lead ETOUSA through a critical period while also recognizing the need for FUSAG. Devers also foresaw how ETOUSA would revert to a bureaucratic backwater once FUSAG and SHAEF were fully functional. Eisenhower agreed with this assessment, merged the ETO and SOS in January 1944, and rejected a recommendation originating from within SHAEF to pull major ETOUSA functions to the senior headquarters level.

This sequence of events illustrates the intellectual journey taken by the U.S. Army fighting in Europe and North Africa, where pre-war certainty about how to set up and run a theater was slowly undermined and a new system much closer to Pershing's preferences from 1918 was established in its place. By July 1944 a few powerful American logisticians in the ETO were unhappy with the situation, but they could not convince their superiors to make decisive changes. The result was a three-way battle for control over logistics among FUSAG, Lee's SOS, and SHAEF on the eve of Overlord. Often presented as an appeal to clear up confusing zones of responsibility, the fundamental issue was about determining who was qualified to synchronize and integrate logistics within a campaign. Experience in the Mediterranean demonstrated that maneuver and sustainment were inseparable, and only field force commanders could combine a holistic understanding of all aspects of the problem with the authority to match tactical objectives to logistical realities. Only after they had been "let down" by the semi-autonomous logisticians a few times did maneuver commanders realize they needed to get more intimately involved in the process and consider physical limitations before they lunged too far into enemy territory.²

The history of ETOUSA provides what was chronologically the first example of the U.S. War Department's attempt to compartmentalize and separate ground combat operations and operational logistics in a theater of war. ETOUSA preceded NATOUSA by about seven months, influenced the scope of responsibility of MG Hughes' command, and learned from the bureaucratic struggles occurring in North Africa. Both ETOUSA and NATOUSA shared the challenge of defining a distinctive mission, securing a capable staff, and defending their turf

² The logisticians would have framed this using very different language, pointing out the ways in which their advice and warnings were repeatedly ignored. The real point was that the two communities needed to listen to one another and work together to develop realistic campaign plans.

from subordinates, peers, and the War Department. U.S. doctrine had not foreseen the emergence of joint-combined operational headquarters, or the key role this organization would play in campaigning. The formation of AFHQ and SHAEF demonstrated the redundancy of the associated U.S. Army theater headquarters. ETOUSA also suffered from the direct access maintained between SOS and ASF and between VIII Bomber Command and the AAF. Rather than preserving the authority of the theater headquarters, the War Department accelerated the independence of these two subordinate organizations by allowing Somervell and Arnold to dictate staff and force structure, basing decisions, and the missions of air and support units stationed in the United Kingdom. ETOUSA was born already at a grave disadvantage to its SOS, air component, and the War Department. The one bright spot was a long history of effective planning and coordination with the British government.

Working through the problems between ETOUSA and its subordinate commands was the first step on the long road to a more realistic and mature understanding of modern operational warfare in the U.S. Army. Upon its creation, ETOUSA was hamstrung by the War Department's unrealistic goal of separating ground combat from logistics and by its dismissive attitude towards the complexity and criticality of their careful integration by some superior headquarters. Marshall and Somervell hoped that the largely autonomous SOS would free the ETOUSA commander to focus exclusively on combat tasks. As a result of the written instructions that created both SOS and ETOUSA, the theater headquarters found itself in direct competition with SOS for the final say on theater technical and logistical support for most of its existence. Their relationship was complicated and intertwined for two reasons. First, both organizations had virtually identical missions, at least for the first year of their existence, which was to build up and sustain U.S. forces in the British Isles. Planning for and conducting combat operations

would not impact either the ETO or SOS to any great extent until the early fall of 1943. Second, as purposely established by Marshall and Somervell, SOS commander had oversight of the theater service chiefs; General J.C.H. Lee hand-selected his team and brought them with him to London in the summer of 1942. An argument about the physical location, authority to publish guidance on behalf of the ETOUSA commander, and independent power of these officers and their supporting staffs would dominate the relationship between the two organizations for the first two years after their creation.

Similarly, General Arnold took measures to retain operational control over U.S. airpower deployed to the U.K. As a result, ETOUSA emerged from its precursor, the U.S. Army Forces in the British Isles (USAFBI), as a headquarters that was irrelevant to its American subordinate organizations. At the heart of the problem was the struggle to man ETOUSA with officers sufficiently experienced to hold their own against powerful subordinates, such as the 8th Air Force, LTG Lee's SOS, and eventually the First U.S. Army under Bradley, and to define a meaningful and unique role relative to its subordinates. Walling ETOUSA off from effective control over its SOS and air component established the precedent for actively resisting any attempt at close integration of maneuver, sustainment, and air-delivered firepower. Eisenhower and SHAEF would inherit this dysfunctional relationship among SOS, First U.S. Army Group (FUSAG), and the U.S. Strategic Air Force (USSTAF) and would have very little time to reestablish primacy of the theater headquarters before operations on the continent began.

By the time the American team destined to run Overlord began to assemble in the fall of 1943, U.S. appreciation of the need to closely synchronize maneuver and operational logistics had advanced to a new level of maturity and sophistication. Exposure to British organizational and logistical methods helped AFHQ, NATOUSA, and American corps and army commanders

become better planners and more effectively coordinate operations. Bradley and Eisenhower were beginning to comprehend that command at their level demanded intense supervision over logistics, and, unlike what had happened in 1942, SHAEF and ETOUSA had moved beyond the War Department and ASF in their mastery of theater warfare. Crawford, Bradley, and the corps of staff officers and commanders that Eisenhower brought with him from the Mediterranean would radically challenge SOS/ASF vision of how theater-level logistics could be planned and supervised. Between October 1943 and June 1944 Lee lost almost all his authority over planning operational sustainment as well as the responsibility for integrating logistics into the theater campaign plan to the SHAEF and FUSAG G-4. All that remained was the core mission of COMZ, which was to synchronize support for the armies through the rear area, and that would come under increasing attack in the second half of 1944. By early 1945 COMZ had been stripped of its authority over anything beyond the most routine missions, displaced by the strongest technical service sections, SHAEF, and the two army groups. Pre-war U.S. doctrine covering administrative control at the theater level had been rejected in the ETO.

What had gone wrong? There are dozens of opinions, and each starts with a few unspoken assumptions about the proper role of three layers of the chain of command. Talking about the failures of COMZ and its base sections is almost meaningless without doing so in the context of SHAEF, the U.S. Army theater command, and the army groups, but few observers practiced that self-discipline. One must sort through the written record of experts located in the right places to provide valuable insight and then build up a holistic appreciation of how COMZ could have become effective in interacting with SHAEF, the army groups, and the technical special staff. Eventually an observation emerges; there were numerous systems that would have worked, but each required arriving at a consensus and full cooperation in its implementation.

But there was too much debate and too little command participation and decision-making in the process to pick a system and stick with it. Moreover, doctrine abjectly failed to capture mid-war consensus, best practices, and validated lessons from the Pacific and Mediterranean theaters. In the late summer of 1944 SHAEF was in the final stages of a transition in its approach to synchronizing maneuver and logistics. Between May and September logisticians at SHAEF and 12th Army Group realized that COMZ was incapable of performing the task and slowly convinced their commanders of the same. The U.S. Army pre- and early-war desire to strictly divide combat and sustainment at the theater level proved unworkable. Many of the sustainment problems encountered in France in August and September resulted directly from the U.S. Army finding itself stuck in the middle of two radically different approaches to logistical command and control at the worst possible time.

The Two Approaches to Synchronizing and Integrating Theater Logistics

These early attempts to wall ETOUSA off from significant portions of what doctrine asserted as the legitimate role of a theater headquarters were in keeping with contemporary thought in the War Department. Chaney was the victim of two reinforcing ideas that held sway in Washington at the time. First, the newly reorganized War Department and two of its three major subordinate commands wanted to direct the war effort centrally from Washington, dismissing or minimizing the operational role of theater commands.³ This preference was reinforced by the Department of the Navy, which would agree to any argument that prevented

³ See Somervell's bid to gain control over the War Department G1 and G4, and this staff's attempts to retain direct control of SOS within each theater in *The Organization and Role of the Army Service Forces*. The AAF was an independent service in everything but name; see Richard Anderson's "Special Observers: A History of SPOBS and USAFBI, 1941-1942" for the story of how Arnold outmaneuvered Chaney and the British Air Ministry to ensure that his vision for the 8th AF was successful. The massive capital Eisenhower had to expend to gain tactical control of the heavy bombers in support of Overlord is common knowledge.

theater commanders with an air- or ground-force background from having any authority over fleet elements deployed overseas.⁴ Based on a desire to prevent the misuse of special assets, or to prevent bad organization getting in the way of their subordinates' efforts, the AAF and ASF, enabled by OPD and the War Department, tried to cut ETOUSA out of the loop.

Second, the U.S. Army began World War Two believing in a system that formally divided responsibility for operations into two equal spheres – combat and sustainment – each of whose parameters were set in U.S. doctrine. Captured in that doctrine was the idea that commanders at every level – including the War Department, theater, and army echelons – had a responsibility to integrate combat and logistics. Both Marshall and Somervell agreed with the idea that combat and sustainment were two distinct fields that each deserved focused staff attention and adequate resources, but Marshall also believed that senior field commanders should focus on combat while a trusted peer or subordinate handled as much of the sustainment and administrative burden as possible. Somervell seemed to take this one step further, wanting to centralize global and theater logistics through the ASF and theater SOSs that were only loosely coupled to a superior operational commander.

Marshall seemed to be of two minds on the more radical approach favored by Somervell. He consistently advised his theater commanders to focus on combat operations and to delegate all other non-essential functions to the staff and subordinate commanders. But he also understood that a commander remained responsible for everything that did and did not happen within his organization and that some higher authority had to synchronize the interaction between combat and logistics. Perhaps Marshall had a blind spot for the significant limitations

⁴ Walter R. Borneman, *The Admirals* (New York: Little, Brown, and Company, 2012), 284. The Navy might have been a bit more open-minded in a theater where ground combat predominated, but it remained very independent and aloof if confronted by anything beyond the vaguest strategic and operational suggestions by an Army superior officer.

that logistics could place on maneuver, or perhaps he underestimated the importance of grounding the maneuver plan within a reality painted by professional logisticians. Regardless, he remained dismissive of the need for senior commanders to spend equal time on maneuver and sustainment at the operational level.⁵

It is possible that Marshall, like most other senior U.S. leaders at the beginning of the war, did not grasp how complex and important operational logistics was to modern warfare. The French historian Nicolas Aubin referred to operational logistics as the task of integrating various distribution networks radiating overland from ports to deep into a continental interior. Critical aspects of that layer of authority included repairing and operating rail, motorized, coastal and inland shipping, and aerial LOCs; arraying and shifting depots; inventory management; and maintaining close coordination with combat units to identify and move their priorities. Just understanding what equipment and supplies were in the theater inventory was a monumental task given the technology available at the time. Leaders understood the advantages of decentralization in fluid conditions, yet items in short supply but high demand required careful centralized management. A critical mission for COMZ was to know where those bottlenecks were and to show a firm hand in the efficient management of these nodes. Examples that eventually caused major problems in France included specialized truck companies, C-47 cargo planes, artillery ammunition, spare truck tires, and bulk fuel. The trick was establishing a command structure supported by sufficient communications gear to centrally manage resupply under special circumstances while relying on routine push systems for everything else. Just as

⁵ Marshall did not dismiss the importance of integrating combat and logistics operations, but he seemed to believe that the chief of staff and sustainment commander could handle the task without overburdening the commander.

the combat commander must sequence battles and recovery periods in time, the logistician had to sequence LoC repair, shifting depots forward, and surging to cover critical shortages at the front.

Marshall understood what Aubin called strategic logistics, which was the science of shipping, ports, and discharge tonnage, and he expected his theater commanders to be equally conversant. Planning global and theater operations with the U.S. Navy and the British in 1941 and 1942 had rapidly taught Marshall that viable offensive options for the U.S. Army depended on strategic logistics. Allied efforts to secure the Western Hemisphere, garrison and counterattack in the Pacific, maintain the approaches to Great Britain, and then mount Operation Torch exposed a large body of senior staff officers and commanders to strategic logistics. But Marshall seemed to retain a blind spot when it came to the continental aspect of the problem, specifically how hard and important it was to develop distribution chains that could move massive quantities of supplies over very long distances on land. Because of his isolation from the details of day-to-day management of a combat theater, it took him longer to recognize the importance of these overland lines of communication. This in turn made him dismissive, at least during the first half of the war, of protecting his theater commanders from the War Department and its more aggressive subordinates, and of the commander's essential role in integrating operational maneuver and logistics at the combined, joint level.

But out in the field, a suspicion that U.S. doctrine and War Department guidance calling for a division in control over combat and sustainment might be out of touch with battlefield reality set in very quickly. It helped that the British had a more mature appreciation of the importance of lines of communication in expeditionary operations and empowered their commanders appropriately. This in turn provided a concrete model which the Americans could observe and from which they could learn. The experience in North Africa lent Eisenhower,

Clark, Bradley, Smith, and Hughes great insight into strategic and operational logistics. At first there was no U.S. theater or SOS command to manage logistics, so AFHQ was forced to synchronize and integrate sustainment themselves. Once NATOUSA and 18th Army Group were established, Smith and Gale were very careful about what authority they surrendered to Hughes and Alexander. Picking up on these trends and based on frustrations of their own, powerful factions within ETOUSA and FUSAG openly rebelled against the idea of blindly outsourcing operational logistics to SOS, even if they were technically a part of the theater staff. Eventually the combat commanders in Europe completely rejected the notion that the ASF and the theater SOS could handle logistics in a vacuum. FUSAG fought for and won the right to control logistical planning and operations on the continent until SHAEF had deployed and was ready to take up control. After the logistical challenges faced from August to October, SHAEF took much firmer hand with the inner workings of COMZ. By the end of the war, every major combat headquarters in the ETO and MTO had relearned that logistics had to be considered equal in importance to firepower and maneuver and that logistics was too important to be left to the professional logisticians.

There was no consensus among Army leaders that pre-war logistical doctrine had gotten this wrong. After the war Lee insisted, in dozens of interviews and official documents his command helped prepare, that the ETOUSA/COMZ staff had done an admirable job that validated the concept of a separate sustainment command only loosely supervised by a theater or combined operational headquarters. Senior leaders at ASF probably agreed that the ETO COMZ could have put in a better performance in 1944 but also that it was an issue of poor execution by mediocre officers rather than a fundamental flaw in the concept and system of command. The issue was serious enough that it played a prominent role in half a dozen of the USFET General

Board reports; the debate on controlling logistics dominated the report addressing supreme command in the theater. A group of influential men in the Army realized that the problem had to be solved before the lessons of the war receded to a comfortable distance.

BG Raymond Moses was directed to supervise the preparation of about half a dozen of the one hundred and fifty-odd reports created by the U.S. Forces European Theater (USFET) in the summer and fall of 1945. The purpose of these General Board reports was to capture the lessons learned from the campaign in Europe, make recommendations for permanent institutional changes, and identify unresolved issues that the U.S. Army needed to study further. BG Moses was the G4 for 12th Army Group in May 1945 and transitioned to the G4 of USFET during the period in which all the reports were written by the General Board. He could draw on almost two years of experience in the ETO when it came time to write the various reports he was tasked to supervise. Moses was heavily involved in planning for Overlord and had supported operations on the continent at the army, army group, U.S. theater, and combined headquarters levels. Moses was passionate about what he saw as mistakes in the organization of the ETO staff and in its scope of responsibilities relative to SOS/COMZ. While remaining professional, Moses made it clear throughout General Board Report Two, "Organization of the European Theater of Operations," that he believed the command structure in Europe was a mess.

Moses boiled the issue down to two competing theories on how to organize a command and empower its staff. The first theory was the consensus prevalent in the War Department at the beginning of the war, and the one that the ASF still believed to be the superior method. The second theory encapsulated the view of ETO combat leaders by the end of the war. Military operations included two main functions: combat and administration. At the theater level, the field forces and air forces would focus predominantly on combat, with some administrative

responsibilities, while the service of supply or communications zone command concentrated on sustainment. Balancing the needs of the combat elements with those of the service units was complex; SOS had to do its job, while ensuring that it did “not infringe on the responsibilities which of necessity must be carried by the tactical commander... Their activities will conflict only to the extent that, when personnel and facilities are limited, each will be bidding against the other for what it considers necessary to enable it to perform its mission.”⁶ Moses offered that the U.S. military had two historical models for addressing this dilemma: the “traditional point of view” and the “Army Service Force Theory.” The traditional approach included the need for a commander to have “complete authority over administrative means required for the accomplishment of his mission, and over his staff which acts for him in planning and coordinating the use of those means.”⁷ The traditional approach relied on two supporting concepts: that a superior headquarters would not meddle in the details of execution developed by subordinate headquarters without excellent reasons, and that component elements within an organization must not interfere with the command authority of their peers by consciously or unknowingly forcing decisions on the whole.⁸ Pershing won the fight to directly supervise his

⁶ USFET General Board No. 2, “Organization of the European Theater of Operations,” 63-64. Moses goes on to point out that there are almost never enough resources to meet all desires, and therefore peer organizations will battle over priorities constantly; if the SOS commander doesn’t fight for his fair share of resources, he is doing a disservice to his unit, and thus the theater and war effort. At the heart of Moses’ perspective is a disbelief that the CG of SOS can do his internal job but then be a fair and balanced adjudicator at the theater level where he balances the needs of SOS against those of the field and air forces. Pitfalls include a bias for SOS, the perception of a bias for SOS among the AGF and AAF, or a tendency to be too generous to the combat elements at the risk of SOS mission. It is a logical argument, but one that seemed to gain no traction with Hughes, Lee, Smith, or Eisenhower. Dual-hatting one leader to serve at multi-levels in the chain of command was common practice in many theaters in WW II and in the modern U.S. military. Moses seemed to be on more solid ground with the argument that no one really knew who was in charge of what decision-making based on the smashing together of SOS, ETO, and SHAEF responsibilities and personnel, a problem that also occurred in North Africa after the creation of NATOUA.

⁷ USFET GB 2, 64.

⁸ Ibid, 64. Both assertions are problematic. The principle of leaving the details of execution to subordinate commands was labelled “mission command” within the U.S. Army in WW II (and it still is). But in order to synchronize arms and services, a higher headquarters has to understand those details, and sometimes modify them based on information or priorities only understood by the higher organization. Eisenhower’s tendency to not “meddle” with execution at the army group level, or override his subordinates, is often criticized by historians. The

own communications zone in France in 1918, rather than surrender some control to Washington, because Americans generally preferred this traditional approach to command. But by the beginning of World War II there were many senior leaders in the U.S. Army who believed that this decision had been a mistake and that Harbord's SOS needed autonomy from the GHQ in order to properly do its job. This concept evolved into what Moses labeled the "ASF Theory" of organization.

Moses' "ASF Theory" was dominant in Washington at the beginning of the war and contributed to the final organization of the War Department after its restructuring in the spring of 1942. Three powerful functional commands emerged from this process: the AAF, the AGF, and SOS (renamed the ASF about a year later). With this development the desire to divide responsibility for combat and administrative activities reached its greatest extreme. Marshall expected commanders to focus on combat and to mentally if not physically position themselves near the frontlines, while Somervell wanted to secure a prominent role for the ASF and theater SOS commands in running strategic and operational logistics. The WD and ASF operated under the idea that "...all service activities could be handled either by the ASF, or in the field by establishments organized along similar lines and having similar functions. An integrated service organization is charged with the control of all administration from the War Department down to include the largest units having tactical functions."⁹

second point is harder to understand and regulate. An example might be helpful. The 9th AF could not decide on its own to blow up all the bridges across the Seine one day, because that decision would make it impossible for the army groups to cross the river, and for COMZ to push LOCs across that barrier. A second example would be a decision by the theater chief of transportation insisting that all truck companies operate only during hours of daylight. Both decisions might be right, but they would have to be underwritten by the superior headquarters, and only after consulting with each subordinate component to fully understand the implications of that decision. A "win" for the 9th AF or the theater chief of transportation might very well result in a major loss for the theater commander based on his immediate priorities.

⁹ Ibid, 64.

Moses thought that the division of a theater into a combat zone and a communications zone was dangerous, and limiting special staff authority to a discrete territorial area sounded reasonable, but it was almost impossible in practice.¹⁰ The need for base sections to interact with one another, for the combat and communications zones to coordinate and compromise, and for the theater to speak with one voice to the War Department made it obvious that a central coordinating authority was necessary. The ASF model did not dispute the need for a final authority, but it specified only the War Department as qualified to referee between a theater GHQ and its associated SOS. Marshall was a bit more flexible, admitting that a trusted theater commander could and should have this power. But he did not want it to get in the way of synchronizing air and ground maneuver. Under the ASF model, the traditional role of the G1 and G4 in a combat organization or at the theater level became not only unnecessary but potentially harmful. The only way a theater or joint-combined G1 and G4 could assist COMZ under the ASF theory was if they were provided by, and answered to, COMZ chain of command.

Moses went on to make it clear that he was a traditionalist and that the U.S. had made a mistake in not resourcing a fully empowered ETOUSA from 1943 to 1945. If not ETOUSA, the U.S. Army needed some headquarters capable of planning and synchronizing the interaction between logistical support and ground and air operations (based on broad policy and objectives assigned by SHAEF). Barring that solution, COMZ should have been made subordinate to and answerable to Bradley and the 12th Army Group staff. That Moses was so adamant about the need for a U.S. Army theater headquarters between SHAEF and the major subordinate commands is odd and out of touch with the post-war consensus that joint combined headquarters made them redundant. In other documents he admitted that SHAEF eventually filled the gaps

¹⁰ Moses was referring specifically to the various base areas and COMZ vice the combat zone.

that ETOUSA or COMZ failed to address. What Moses learned through practical experience was that maneuver and logistics had to be integrated and synchronized within one headquarters that had complete mastery over both spheres. Maneuver objectives had to guide, but also be tempered by, logistical priorities and forecasts. This demanded that both staffs collocate based on the limited technology available in 1944 and that the commander had to expend considerable personal effort to impose his will on both combat and sustainment subordinate leaders.

Moses knew that the ETO had problems as soon as he reached the theater in September 1943. One of his first attempts to explore viable options was to get the thoughts of MG Hughes at NATOUSA about strengthening ETOUSA or FUSAG at the expense of SOS. Moses wrote to Hughes after spending two months in England working with the ETOUSA, COSSAC, and FUSAG staff getting ready for Overlord. He already had strong opinions about what the primary shortcomings were in the current setup. Moses asked about the proper size and location of technical service sections at various levels of the chain of command. Moses also wanted to know what Hughes believed was the right balance between SOS and theater headquarters oversight of logistics and what the relationship between the theater G4 and SOS commander should be.¹¹ Moses was probably hoping that Hughes would second his own belief that the theater needed a strong commander and staff with clear control over SOS operations and decision making.

Interestingly, Hughes refused to address the two specific questions put forward by Moses. Instead, he emphasized that the most important issue would be the personality of the commander and his chief of staff (almost assuredly Eisenhower and Smith by the time these letters were

¹¹ Letter Moses to Hughes, 22 December. General Correspondence, Box I-6, MG Everett Hughes Papers, LoC Manuscript Division.

written) and their preferences on how to run large organizations.¹² Hughes refused to name Eisenhower and Smith as the likely key personalities – perhaps he hoped Moses could read between the lines. Hughes disagreed with Moses on the need for a strong and independent U.S. theater commander – based on his experience with AFHQ, he believed that the combined operational headquarters, or SHAEF in this case, would fill that role. His time in NATOUSA working for AFHQ had convinced him that two theater operational commands were redundant, and this attitude demonstrated the emerging gulf between veterans of operations in the Mediterranean and officers in the War Department. Working under a powerful combined headquarters, the next U.S. commander in the chain should be in charge of running COMZ. Hughes felt strongly that Eisenhower would never delegate the integration of theater land combat, including tactical air support, to a subordinate American general.

Leaving the topic of senior level headquarters, Hughes advised Moses to ensure that there was an ADSEC ready to deploy to the continent as quickly as possible. The ADSEC could then quickly transition into the first base section, and it could also help COMZ get established once it moved to France. Hughes saw the way in which the early deployment of Larkin and his SOS command with the Central Task Force had eased the establishment of a theater SOS two months later and advised Moses to take along a similar capability embedded in the 1st U.S. Army. Beyond these two points, Hughes refused to go into further detail or to bemoan his own battles with Smith and the AFHQ staff over the last year. Moses wrote back on 5 January, taking another swing at the need for a strong theater G4 to adjudicate between COMZ and the combat zone, but he left it at that. Hughes did not reply to this second letter.

¹² Letter Hughes to Moses, 28 December 1943. General Correspondence, Box I-6, MG Everett Hughes Papers, LoC Manuscript Division. Hughes shared with Moses that he had just seen Beedle off the day before writing his reply and must have envisioned Smith as the CoS of SHAEF and ETOUSA. He already knew where Smith stood on the issue of a strong and independent U.S. theater deputy commander or COMZ commander.

As seen in his exchange with Hughes, Moses was swimming against some strong external currents. The authors of General Board Report Two acknowledged that the written instructions provided by the War Department, as well as oral and written guidance from Marshall to his theater chiefs, tended to reinforce the idea that senior commanders should delegate as many administrative tasks as possible to allow them to focus on what was really important – combat.¹³ As we have already seen, *FM 100-15* and *FM 100-10* captured the same organizational construct and division of labor. The War Department would synchronize strategic sustainment and theater, army, and army group commanders would integrate tactical logistics. Just as American doctrine and recent practical experience did not delineate an operational level of war, it also did not envision “operational logistics” that required careful synchronization with a campaign plan.¹⁴

Even though Moses lost his argument about the need for a strong U.S. theater command, he agreed fully with the growing realization that combat commanders had to take full ownership of the integration of maneuver and sustainment. As Allied operational commanders gained battlefield experience, they adopted a language that effortlessly blended sustainment and tactical reality, in essence refuting the doctrinal separation of the two.¹⁵ By 1944 and 1945 Moses,

¹³ USFET GB 2, 65. The authors of the report cited the 14 May 42 circular and 14 Sep 43 letter issued by the Office of the Chief of Staff, War Department, covering the organization of the ETO for this conclusion.

¹⁴ Nicolas Aubin, *Liberty Roads: The American Logistics in France and in Germany 1944-45*, trans. Lawrence Brown (Paris: Histoire & Collections, 2014), 189. Aubin adopts this taxonomy to help differentiate and explain the new logistical capability developed by the United States by the spring of 1945. Operational logistics was short-hand for two key ideas: long-distance supply lines fed primarily by road-bound trucks, and logistics conducted at a scale and level of integration with combat operations to support mass mechanized warfare. Strategic logistics was already established and well understood from World War One. It linked industrial production in the zone of the interior with international shipping routes to deliver this material to a number of combat theaters.

¹⁵ This will be illustrated in future chapters. The MTO files contain great examples in the cables between senior military leaders discussing the landing at Anzio and Anvil. By the winter of 1944 Alexander, Clark, Devers, Wilson, and Eisenhower had achieved mastery over a lingo that translated troop and cargo convoys, LSTs, and port tonnage into combat-capable divisions, with supporting aircraft, available at the front lines. All that was missing was an appreciation of the variable introduced by long overland lines of communication, and Torch provided one example of the challenges associated with that environment. Osmanski argued that by the fall of 1944, SHAEF and its subordinates developed the same appreciation of operational logistics, or the number of divisions that could be sustained in contact with the enemy based on the distance from the closest port and truck companies available to support the LOC.

Bradley, Montgomery, Alexander, Devers, and Wilson were experts on the linkage among port tonnage, distribution networks, and the operational reach of a force based on the distance to the closest port. This in turn explains why these commanders were not comfortable turning the details over to Lee and SOS and why Bradley had fought so hard to maintain authority over COMZ until SHAEF was up and running on the continent. General Board Report Two illustrated the fact that the war in Europe generated a reaction that shifted control of theater and tactical logistics back to the maneuver commanders, and it recommended that this be incorporated in future doctrine and professional education.

General Lee strongly disagreed with the overall conclusions in Report Two. Wisely, he advised the General Board to look at how other theaters had tackled the issue of theater organization among its top-echelon headquarters; perhaps a wider view would present patterns leading to more meaningful and generally applicable lessons for the U.S. Army. Lee assumed that future conflict would doubtlessly place a premium on the ability to synchronize air, land, and sea combat with logistical support, and he projected that commanders would never have enough trained staff officers to fill every desired position and capability.¹⁶ Adding more layers to the chain of command, or expanding the size of each staff, was not a long-term solution. He did not draw the direct linkage, but he was correct in asserting that no theater really needed, nor could it properly man, a COMZ, Army theater, and joint-combined headquarters.

Lee circled back to a personal principle of his: One person must combine authority for planning with responsibility for execution in the realm of logistics, rejecting the "...discredited French General Staff doctrine of anonymous planning with no responsibility for results, of

¹⁶ Appendix 30 to GB 2, 2.

functional coordination in the name of the commander.”¹⁷ The best practical solution for this desire to centralize the authority for planning and execution with one person was to provide senior-level commanders two executive deputies – one for operations, and one for support. In his response to Lee’s rebuttal, Moses acknowledged that this concept of twin deputies was a close fit with the British system with its established positions for a MG(A) or CAO and that it might have worked better than the various American solutions tried during the war.¹⁸ Lee also emphasized that advances in inter-Army logistical synchronization achieved during the war would have to be expanded to include service-level (Army, Navy, Air Force) integration in the future. The Allies had made progress integrating joint capabilities during the war, notably so during amphibious assault operations, but logistics remained stove-piped within each service. This inefficiency would be an exploitable weakness in future conflicts. Not only did Lee reject the idea that senior logisticians needed more oversight from combat leaders. He also insisted that sustainment issues must be given more consideration while considering the overall direction of the campaign.

In his rebuttal to the conclusions and recommendations offered in General Board Report Two, Lee was arguing for more centralized authority and power to plan and execute logistical support to the armies. This individual would have to direct the G1, G4, and technical service sections, support area commanders, and would answer to only the theater commander. It was a construct likely to result in friction between the two deputies and the chief of staff – a structure that would benefit from having an integrator positioned between the commander and his three

¹⁷ Appendix 30, GB 2, 2.

¹⁸ Appendix 31, GB 2, 2. Moses was not as familiar with the British system employed in North Africa, as opposed to the system used by 21st AG, as some of his peers and could not understand the power of the system as exercised by Gale in the Mediterranean. His rebuttal to the idea contains a few assumptions (presented as facts) that were disproven by British organization in North Africa. Lee benefited from a wider lens and more meaningful interaction with Hughes, Gale, Lutes, and Somervell on alternative approaches to theater and combined command.

principal advisors. Lee might not have realized it, but he was generally describing what Gale's position had been at the height of the CAO's power during the first half of the campaign in North Africa before the establishment of NATOUSA and its SOS. The AFHQ solution was more effective because Gale, in his role as a staff officer, answered to Smith. This allowed the chief of staff to screen and eliminate maneuver or sustainment options that put combat or sustainment organizations in an impossible position.

It is important to understand the two competing approaches for the control and integration of logistics that existed in the U.S. Army during the Second World War. Upon entry into the war, the prevailing attitude supported a powerful theater SOS that answered to the ASF as much as or even more than to its regional commander. Because operational control tended to gravitate away from the U.S. Army theater command and towards joint-combined headquarters (even in the Pacific), theater headquarters found themselves under-resourced and largely ignored, both by their subordinates, the War Department, and the supreme operational headquarters in the region. Allied planners believed that service organizations would need to be tightly controlled to ensure that they adequately supported maneuver and the delivery of firepower. Once again, the center of gravity for this activity tended to be located at the joint-combined headquarters, armies, and army groups, undermining the authority of U.S. theater commands. By the end of the war both camps agreed that the theater headquarters was at best a second-class citizen, but neither side could agree who should fill the vacuum. The argument would spill over to the USFET post-war General Board process, professional journals, official histories, and memoirs over the next decade. The following section will summarize about a half dozen schools of thought that emerged from that discourse.

Defining the Role of ETOUSA and its SOS: A Range of Opinions

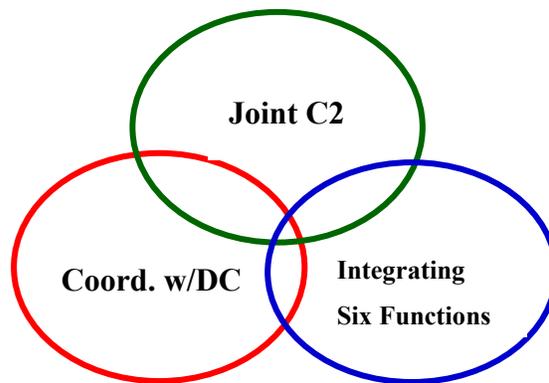


Figure 3.1: The three potential roles of a U.S. Army theater command

The entire debate around the right way to structure and empower ETOUSA, and any theater command for that matter, tended to go off course in two ways. The first tendency was to dive too quickly into details without stepping back and first tackling the fundamentals. The second was to generalize about a philosophy of command and about organizational principles without going into details or considering the three major pieces of the puzzle as a whole. If in practice senior Army leaders did not agree with *FM 100-15*, or if that document had become outdated, then what was the unique and fundamental role of a theater command, and thus its role relative to a SOS? If Marshall wanted his commanders to focus on the big picture, and specifically on combat, what was their role in a theater that did not have an operational mission or where a long period of buildup and planning was necessary before fighting kicked off? If a theater commander discovered Arnold or Somervell meddling in his business, or his subordinate commanders cutting him out of the loop in their dealings with the AAF and ASF, what did Marshall expect them to do about it?

By late 1943, U.S. Army theater headquarters had become redundant and unnecessary in those locations where a joint-combined command structure already existed, at least for any tasks

beyond the most routine bureaucratic recordkeeping. NATOUSA was never called upon to do anything more, and ETOUSA fulfilled its envisioned purpose for about eight months until it was displaced by FUSAG, SOS, and SHAEF.¹⁹ Once ETOUSA merged with SOS, it was treated as a COMZ command in waiting. Because the War Department failed to address the difference between pre-war doctrine and reality, Army theater commands struggled to define their role on their own. They tended to be boxed out of combat operations by the AAF, Department of the Navy, or a joint-combined headquarters. Routine interaction with the AAF and ASF was handled by the organic SOS and senior air headquarters. The major unclaimed role, at least in Europe, was planning long-range operations and producing a consolidated, prioritized troop basis and material shipping list. In both tasks, to some extent, ETOUSA and SOS existed as bureaucratic rivals for most of their history.

Functional overlap and a lack of clear guidance from Washington drove both ETOUSA and SOS to gravitate towards the role that their commanders preferred. ETOUSA under Andrews and Devers conducted operational planning with the British, accelerated the Combined Bomber Offensive, and improved ground combat training. SOS under Lee mastered the downloading, dispersal, and billeting tasks demanded by Bolero, while simultaneously attempting to retrain service units and to establish all-service geographically aligned support commands. At least during their first year of existence, ETOUSA and SOS coexisted as uneasy peers, to the detriment of planning for Roundup. This unhealthy relationship also retarded the

¹⁹ It could be argued that Devers made ETOUSA relevant as something more than the American portion of the Roundup planning team during a short window from around July to November 1943. Devers drove the process that produced the final list of units necessary for Overlord, a compromise worked out between 8th Air Force, FUSAG, SOS, and the War Department. Devers also spent a lot of personal and staff energy inspecting and improving U.S. and combined training in the U.K. during his eight months in command. The meaningful supervisory authority Devers had carved out for ETOUSA was largely surrendered during the fall of 1943, passed on to FUSA/FUSAG, USSTAF, and a more powerful COSSAC.

development of SOS and the theater staff into organizations focused on operational sustainment, with the chiefs of the various technical services suspended between two superior officers, each with very different priorities.

Anyone that entered the orbit of NATOUSA or ETOUSA, or the major headquarters around them, detected quickly that something was off. They inevitably came up with suggestions on how to fix parts of the problem but they were seldom positioned to see the whole. As a result, their ideas too quickly degenerated into various command-and-control wire diagrams, staff organization charts, and lists of tasks and authorities rather than lead to a comprehensive rethinking of required functions over time. Or they took a command and organizational template, or a leadership philosophy, and tried to make the model work in the situation under discussion.

Because the argument typically became a comparison between ETOUSA and SOS prior to Overlord with the shortfalls of COMZ in France, would-be reformers failed to talk about how these organizations needed to change over time. None of the revisionists tackled the subject of transitions; ETOUSA and COSSAC were essential before SHAEF was activated. They conducted the first ten months of operational planning, built the list of troops to deploy in support of securing the lodgment, and amassed the special materials for projects on the continent. But once SHAEF was up and running, it made perfect sense to merge them with SOS. Most authors did not address exactly what COMZ had failed to do in France and how to fix it. Lee failed to transition SOS into a field command that could communicate and coordinate with its ground and air peers through mechanisms at SHAEF and the two U.S. army groups. To do this, SOS would have needed to dominate operational logistical planning, develop close relationships with combat headquarters well before the invasion, and organize and practice for conditions in

France and not those found in the U.K. When COMZ did not take ownership and provide sufficient support some other agency eventually filled the void.

U.S. Army theater headquarters played a key role during World War Two, but it was nuanced and evolved in accordance with the critical task facing the command during each stage of a campaign. Theater commands tended to think on a longer time horizon than joint operational headquarters and take a more holistic view to developing infrastructure and a well-rounded force that balanced combat forces with service units. The nature of a theater command tended to change significantly once active combat began to consume the other operational headquarters. The flood of written material produced at the end of the war seemed to miss the impact of that inflection point, when combat took over as the key activity occurring in the theater. Aspiring reformers struggled to see the problem as a multi-year whole with shifting requirements and priorities throughout that period. In order to come up with a holistic solution that might have been applicable for the entire life cycle of a combat theater, one has to stitch together all of the partial fixes offered by various observers.

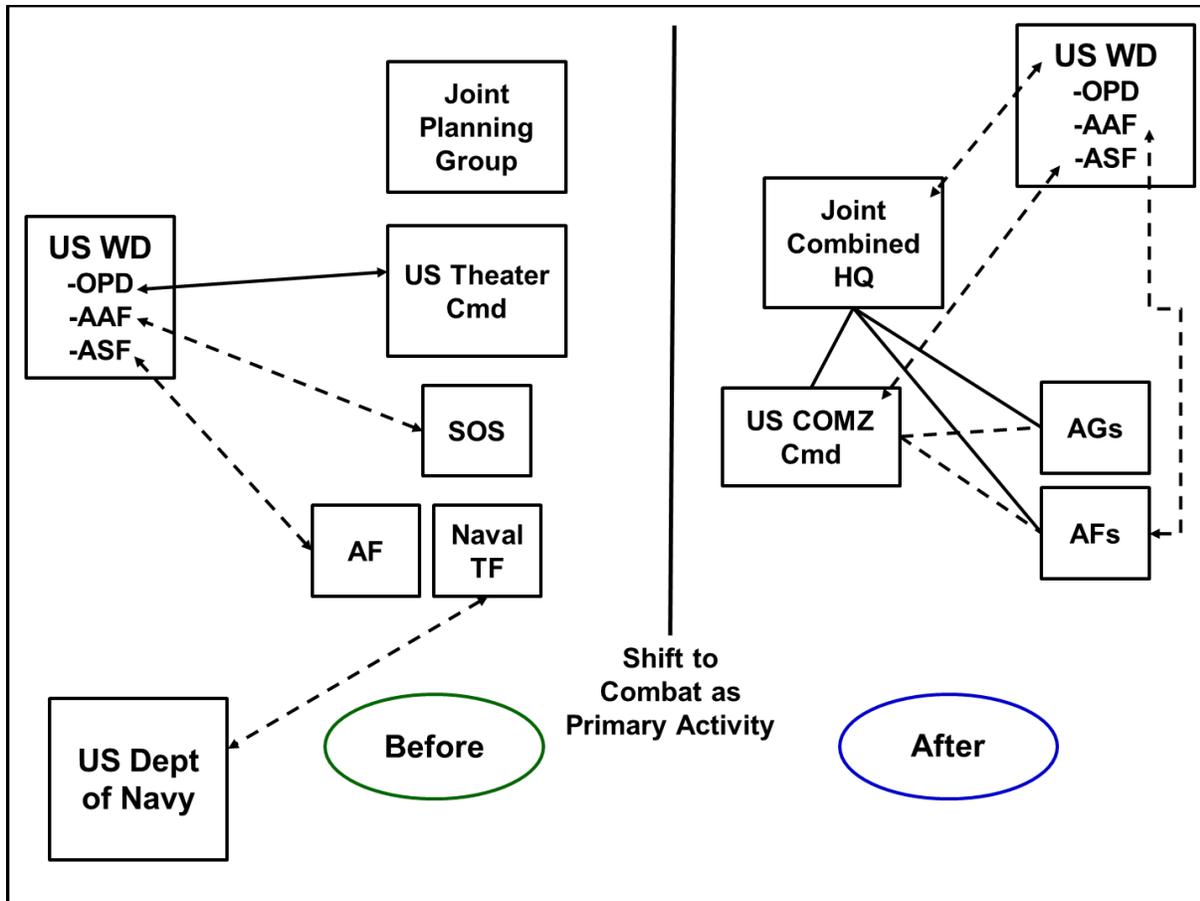


Figure 3.2: U.S. theater C2 structure, before and after formation of a Joint Combined HQ, based on U.S. doctrine and what eventually transpired in ETOUSA; dashed lines represent coordinating authority only

In the debate captured in GB Report Two, Lee and Moses were really talking about the degree of supervision necessary over theater logistics, not the optimal way to organize a theater staff. This was a trend repeated by almost every “expert” who wanted to reorganize the ETO. Because no one defined what the unique role or roles were for the theater staff, during preparation for and then during combat, there was disagreement over what to fix, much less how to go about it. Even when the Americans reached a consensus on who should be in charge of what during the war, the same issue reappeared periodically with the rotation of senior-level leaders, changing operational priorities in Europe, and the realization that there were not enough

trained staff officers to man three layers of headquarters.²⁰ The optimized ETOUSA built for General Devers in the summer of 1943 was the wrong instrument to support Eisenhower in the fall of 1944. One of the reasons that organizing and running a senior-level headquarters for the U.S. Army was so hard was because it was so dependent upon the personality and preferences of the senior leaders in charge.

The writings of senior observers and participants in this evolutionary process revealed what they believed the fundamental mission of ETOUSA and its SOS was and what they considered the best way to organize in order to accomplish that mission. Some of the authors focused on how to improve some aspect of logistical support and theater management, while others advanced a generalized philosophy with few concrete examples or recommendations. It is informative to compare these opinions on exactly what was wrong with ETOUSA, and the headquarters around it, and on the best way to go about fixing it before trying to understand why ETOUSA evolved and performed the way it did.

Each person who wrote about the topic was heavily influenced by his own previous duty assignments within the U.S. military; where one stood very much depended upon where one had most recently sat. A large body of written work on the subject was produced immediately after the war, informed by the entire campaign across France and Germany and not just by the first two years of the buildup in Great Britain. The arguments contained in these documents provide a deeper understanding of what a wide range of participants came to consider to be the core problems, solutions, and improvements for theater and sustainment organizational and staff structure, and high-level command during war in general.

²⁰ Which has probably been the case in every U.S. war in the 20th and 21st centuries. The only way to lock in agreement is through doctrine that then forms the basis of professional education. U.S. doctrine has done a commendable job of this at the tactical level, but not so at the operational and strategic level, for better or worse.

It was obvious that the AEF's experience in World War One had a massive impact on how the U.S. Army thought about lines of communication at the beginning of World War Two. Based on their personal experiences and the influence of their mentors, Marshall and Somervell issued some very specific instructions governing staff structure that limited the flexibility of their subordinates. Marshall did not want his commanders getting bogged down with what he considered secondary issues, which was likely to happen if he did not have good people with clear command authority overseeing the communications zone. From Marshall's perspective, Pershing had been let down by his logisticians in France, and the AEF staff had been forced to spend too much time and attention on sustainment until SOS was properly organized and led by its third commander, BG James Harbord. Internalizing this lesson about delegation and empowering subordinates, Marshall decided to reorganize the War Department in March 1942. His objective was to delegate the power necessary to generate trained and equipped forces for service in a half-dozen theaters to his key lieutenants. This would allow Marshall to focus on the President, his fellow chiefs of staff, and the strategic and operational big picture.

Somervell's touchstone was the AEF experience in France, and, from his perspective, the mistake of inadequately resourcing the support command to allow it to do its job. Marshall believed Pershing should have delegated more authority to a trusted subordinate; Somervell internalized the counterargument that the AEF would have been better served by an independent command focused solely on sustainment answerable directly to the War Department and zone of the interior. There was a consensus among the ASF leaders that the AEF staff was focused on combat operations and as a result failed to properly supervise and coordinate the various functional service chains that were supposed to support the army. This was in conformance with the idea that the independent power of the bureaus (as the branches and services within the U.S.

Army were known during World War One) had to be slashed, and that their leaders, both in the United States and in active theaters, subordinated to geographical commanders. Officers within the ASF also believed that Pershing had been too quick to reassign leaders, men, and equipment from COMZ for service in the combat zone.

It was natural for Eisenhower to pick up the preferences of Marshall and Somervell during his time in the War Department. Eisenhower agreed with and implemented Marshall's advice on delegation and the importance of empowering subordinates. Eisenhower also valued a strong chief of staff who would free him from daily routine, paperwork, and endless meetings at the headquarters. Based on what he had learned from Marshall and Somervell and on his own preferences, Eisenhower was perfectly comfortable turning sustainment over to Hughes, Gale, or Lee and expected Smith to work out any troublesome issues that bubbled to the level of combined headquarters. Eisenhower did not want to deal with individual instances of logistical or organizational shortcomings, relying on Smith and Lee to fix problems. Unfortunately for the Allies, this attitude undermined Eisenhower's campaign strategy twice, once in North Africa and a second time in France. After the near collapse of Allied logistics in October and November 1944 Eisenhower was forced to pull back a large measure of Lee's autonomy, drive the SHAEF staff to take a more hands-on approach, and look much more favorably on Bradley's interest in having a greater say in how COMZ did business.

As Eisenhower's chief of staff from mid-1942 to the end of the war in Europe, Bedell Smith was the officer charged with making Eisenhower's preference for decentralized structure produce results across the various U.S. commands. As we have already seen in his relationship with Gale during the planning for Torch, and in the friction that emerged with Hughes in North Africa, Smith was comfortable leaving the detailed control of logistics to the experts. But Smith

did demand that his subordinates keep him informed, warning him when logistics requirements ran headlong into some other priority, such as the allocation of shipping space between crated aircraft for the RAF and cargo trucks on the third U.K. convoy into North Africa. Smith also demanded control over his people and their time, even if they answered to two bosses as was often the case in 1943 in the Mediterranean.

General Smith said it himself in his memoir written in 1956; one of his critical responsibilities as a chief of staff was to supervise the logisticians. It was up to the G1 and the G4 and to the service chiefs providing detailed technical projections to “estimate the supplies necessary to bring the commander victory in the field. It is the duty of the staff to anticipate all foreseeable problems which the armies may meet and to recommend solutions.”²¹ In his memoir Smith took about twice the space to explain the details of the G-4’s responsibilities compared with those of the other member of the staff, making it clear that sustainment was one of the most important functions of a large headquarters. Smith’s battles with Hughes and to a lesser extent with Lee to exercise that oversight on behalf of his commander, as both the chief of staff of NATOUSA and ETOUSA, were counterproductive to effective work. Eisenhower seemed to learn from the experiment of injecting Hughes into the staff chain of authority at AFHQ and ensured this dual control did not happen again with Lee at SHAEF. The right personality could overcome problematic organization; Gale found a way to work effectively with Smith from August 1942 to May 1945. But as one reads the written critiques prepared by a few U.S. senior logisticians soon after the war, it is striking how many seemed to resent Smith’s attempts to adequately supervise sustainment and integrate it with other priorities at SHAEF.

²¹ Walter Bedell Smith, *Eisenhower’s Six Great Decisions: Europe, 1944-1945* (New York: Longmans, Green, and Co., 1956), 7.

It is worthwhile to examine General Jacob Devers' opinion on supervision and integration of logistics because of the wide breadth of positions he held during the war. Devers directed the Armored Force within the AGF, spent eighteen months as the ETOUSA and then NATOUSA commander, was the deputy commander at AFHQ, and ended the war in charge of 6th Army Group. This wide range of positions ensured that he had practical experience with every aspect of strategic and operational logistics and the opportunity to synthesize an appreciation of the subject.

Devers was a frequent lecturer at the Armed Forces Staff College in 1947 and 1948 where he talked about combined planning at the theater level. Two of the six lessons that he liked to share with his audience concerned logistics. Devers claimed that “a combined theater commander should take five looks to the logistics of each of the armed services – to each of the allied powers under [his] command, for each look he takes to the front.”²² He was talking about his experiences as the deputy commander in Italy and commander of 6th Army Group, which included the French First Army. Detailed implementation of any support plan was the role of the national service command. But the theater commander had to establish priorities to drive that implementation. In order to do this, the joint commander had to maintain, with the help of his staff, a detailed understanding of the logistics picture.²³ The example Devers used to illustrate his point drove home the idea that decisions made in the realm governing maneuver always had a logistical component, and the commander could only make an informed decision if he understood all the variables. During the recent war, this integrated assessment had come from his army group staff, Larkin's SOS, or a combination of the two, but he needed the assessment to

²² Jacob Devers, “Problems of Combined Planning” (lecture, Armed Forces Staff College, Norfolk VA, 10 May 1948), 9. Devers File, AHEC.

²³ Ibid, 10, 13.

be accurate, integrated, and timely. Logistics also impacted flexibility at the tactical level, where different ammunition, repair parts, fuel types, and even culinary preferences made it very difficult to mix nationalities at the corps level and below.²⁴ If the operational situation demanded units of mixed nationality, the staff would have to understand and manage the resulting friction very carefully.

Devers also explained some aspects of his philosophy of command that shed some light on why Lee and SOS failed to exploit the formal authority over logistical planning that they secured on three different occasions and why they were eventually displaced by SHAEF and 12th AG. Devers was trying to make a point about what tasks leaders can and cannot delegate, pointing out that a theater commander has a large and seasoned staff, a wealth of personal experience, and formal and informal authority to tackle complex joint combined operations.²⁵ Tactical formations are not as well-resourced and face more time-sensitive concerns, and they have less access to political and military leaders from other nations and services. Devers also made it clear that he was talking about the influence and drive that only the commander could lend to any effort. He believed that this was especially important during the early phases of any new endeavor. Devers did not explicitly call out SHAEF or Lee, but he made it clear that he believed SHAEF had to retake control over logistics at the operational level logistics. SHAEF was the only headquarters with the resources and authority to maintain a comprehensive appreciation of the current situation and enforce strict priorities across joint and national lines. Devers' philosophy of leadership also suggested that SOS would have benefited from a more hands-on approach to operational planning by Lee. In Devers' construct, if Lee had spent more

²⁴ Ibid, 14-15.

²⁵ Ibid, 18.

time in London coordinating with ETOUSA and COSSAC, his organization would likely have followed his lead.

Another advocate of tight integration between maneuver and sustainment under the direction of combat commanders was BG Moses. It is worth mentioning that Moses was an engineer, like so many of the officers working on logistics in the U.S. Army. He had been exposed to long-duration and complex projects as a junior officer, but he was not a technical expert on how requisition and distribution worked. Moses' perspective was shaped largely by his experiences while working out the details for Overlord under the direction of British officers, when he was frustrated by what he saw as a lack of support from SOS and adequate supervision by ETOUSA.²⁶ Due to his experiences as the 1st Army and then 12th Army Group G4, Moses thought that Bradley and his staff were forced to shoulder too heavy a load coordinating air support, sustainment, and combat operations in France. His preference would have been a fully staffed and deeply involved ETOUSA that could have shouldered some of that burden. Barring that solution, SHAEF needed to fill the gap.

Moses admitted that, after a rocky start, SHAEF was doing an admirable job by December 1944.²⁷ With the insight provided by a year of operations on the continent, Moses argued that U.S. forces desperately needed an unbiased, influential, and well-connected referee to make tough choices, especially during the supply crisis of September and October 1944.²⁸ He never explicitly said it, but it is obvious that he thought Lee's COMZ had dropped the ball, and that SHAEF had allowed it to happen. If either of the headquarters had been more involved, they

²⁶ Hughes was assigned as the ETOUSA G4 for less than a week before being reassigned to FUSAG. He worked first with the COSSAC and then the 21st AG staffs to integrate U.S. logistical support into the overall campaign plan for Overlord.

²⁷ General Board Two, 71-71, 75-76.

²⁸ General Board Two, 76-77.

could have prioritized the allocation of transportation and the distribution of critical supplies, and they could have held combat commanders accountable for unauthorized “raids” back into the communications zone. Moses acknowledged that the SHAEF G4 section had eventually provided this service, but he also noted that it had required a few months, from September to December, for the section to evolve to the point where they could perform this function. It took that long because SHAEF was not deeply engaged in the earliest and most detailed planning for Roundup, assumed SOS and ETOUSA staff were doing the job for them, and then needed a few months to get personnel and reporting procedures in place to address the shortfalls of COMZ staff. A less charitable conclusion would be that the SHAEF G-4 did not realize they would have to take over many of the functions they assumed COMZ could handle, and they only recognized their mistake when Lee’s command stumbled that autumn. Moses was also frustrated by the inflexibility of the automatic or push supply system and thought he should have been able to slow down the flood of marginally important and even trivial supplies to get more of his critical shortages filled during the fall of 1944. In this he echoed the opinion of others that COMZ handled the routine well but that it struggled to establish similar systems for non-routine support and to achieve a balance between the two requirements.

In the conclusion of General Board Report Two, the committee wrote that the American team at SHAEF should have been split into two sections, one of them focused on filling the ETOUSA role.²⁹ This staff element could have been supervised by a deputy chief of staff or led, along with all U.S. Army forces in the theater, by a deputy theater commander.³⁰ Both possible solutions addressed what the writing team thought to be the three critical considerations. First,

²⁹ This is what MG Lord and his team collocated at SHAEF were supposed to do. Moses does not address why they were insufficient, but one can infer that Moses found the requirement to answer to two bosses (Lee in one camp, Eisenhower and Smith in the other) disagreeable.

³⁰ General Board Two, 78-82.

there would be a clean division of responsibility for work between the two wings of the staff, ensuring clear lines of supervisory authority over each staff. The goal was to limit if not eliminate situations where the G4 had two or three bosses and to align the priorities and focus areas of each leader with his associated staff team. Second, placing the staff at the same physical location would make sharing information easier, allow quick consultation to determine which half of the American staff would handle tricky problems that did not fit neatly into one bin or the other, and exploit the efficiencies associated with those duty positions that supported both aspects of the staff equally. Finally, the recommended model ensured a unified chain of command for all matters at the SHAEF and ETOUSA level with no disproportional loyalties to, or additional duties within, a subordinate organization like COMZ. Moses and his team foresaw and countered the principal argument against a robust ETOUSA staff with the assertion that enough personnel had always been available in Europe and just needed to be consolidated under one leader at the theater level.

By the end of the war, General Everett Hughes might have agreed with Moses' conclusion that the senior operational headquarters needed to be deeply involved in theater logistics. Hughes came from a field artillery background but developed a reputation as an expert in ordnance early in his career. He served as the chief of ordnance and then as deputy chief of staff at ETOUSA in the summer and fall of 1942. There Hughes helped plan Torch, working closely with Gale at AFHQ. Then he served as Eisenhower's theater deputy and COMZ commander in North Africa and the Mediterranean. Hughes matured as a leader and manager throughout the war, a process illustrated by his diary entries and contributions to the theater and combined headquarters around him. During the early planning for Torch Hughes fought the War Department to gain more input over shipments coming out of the port of New York, arguing that

the theater and not SOS in Washington should establish priorities and planning figures for combat forces in North Africa.³¹ As we have already seen, he fiercely defended his authority as a deputy theater and COMZ commander and the vehicle this provided to transfer administrative functions from the operational headquarters to the theater and logistical staffs. Like Lee, he believed that the senior logistician had to control sustainment planning and execution and thus directly supervise the G1 and G4 at the highest levels. Although he kept it to himself, he did not appreciate how the Corps of Engineers came to dominate senior sustainment positions throughout the Army, blaming them for establishing a mutual protection and career advancement network.³²

Near the end of the war, Hughes had come to believe that requisition-based (pull) systems sounded good but were just as inefficient as a system based upon historical consumption data (the automatic push method).³³ The problem was the gap in time between identifying what was really needed and its delivery. At the tactical level, a lot might change in the days, weeks, and months between figuring out the critical shortage of today and its eventual arrival in a local depot.³⁴ Having refined his thinking since his days as the chief of ordnance at ETOUSA, Hughes now believed that the only workable system was to push people, equipment, and supplies

³¹ "Supply from the Rear", unpublished manuscript, probably written in the second half of 1943 or early 1944. Box I-2, MG Everett S. Hughes Papers, Library of Congress Manuscript Division. Hughes makes the same point in his diary; in message traffic between ETOUSA, AFHQ, and the War Department; and in his replies to internal memos moving throughout AFHQ prior to the invasion. Hughes did not care if it was SOS or ETOUSA that did the detailed work – but he did believe that the theater needed more control over supply priorities relative to the ASF. He carried the same attitude forward to NATOUSA and tried to control Larkin's SOS with what he believed was the right balance of trust and supervision.

³² "Chapter VI – Engineer Influence," unpublished manuscript. Box I-2, MG Everett S. Hughes Papers, Library of Congress Manuscript Division. He felt they had formed an engineer protection society to cover up one another's mistakes, secure key positions for the community at the expense of more qualified technical service officers and that they tended to sugar-coat or hold back professional criticism of one another. Aurand harbored the same concerns.

³³ These consumption rates were based largely upon data from World War One and published in service and Army doctrine. When these figures proved to be out of step with the combat experience gained in North Africa, NATOUSA and ETOUSA tried (unsuccessfully) to have the tables updated.

³⁴ Hughes was talking specifically about personnel replacements by skill type, but the same logic applied to all supply issues.

forward to the combat zone based on historical consumption data. There were mismatches and inefficiency, but in the long run the system would produce a better result. Large logistical commands could mitigate tactical disasters or exploit rapidly changing conditions by maintaining a small reserve of critical supplies and equipment in theater.

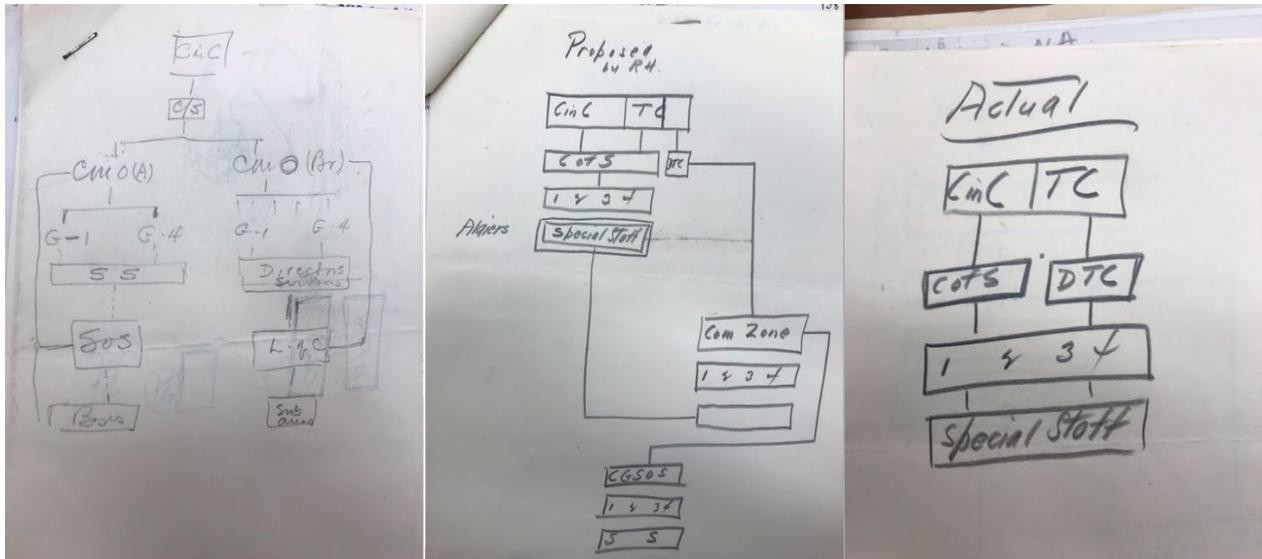
Hughes and his peers struggled to reconcile the inefficiency of combat with the demand from the ASF for precision out in the active theaters. Aurand noted that almost half of the 240 mm artillery ammunition delivered to the ETO was never fired; Hughes complained that the U.S. Army wasted ammunition and did not exploit the opportunities it provided.³⁵ In both observations there was the veiled criticism that commanders seldom used everything they insisted was necessary, wasted material resources, and tended to rely too much on firepower to reduce casualties or the risk of casualties. Hughes, Lee, Lutes, and Aurand understood that senior logisticians were trapped in a Catch-22 of unrealistic and rapidly shifting demands for items that might be misused or never used at all. The result was a system that had to be inefficient in order to function – you had to maintain more supplies than you would realistically use, just in case. As a result you would tie down more transportation, storage, and handling capability than senior leaders at the War Department were comfortable with. Because combat commanders demanded a surplus of readily available fuel, ammunition, and replacement equipment, logisticians needed more trucks, trains, and service units to move everything forward. What was frustrating was that the War Department demanded efficiency in the second half of the equation while ignoring the unpredictability of the first set of variables. Combat and sustainment

³⁵ “II – Ammunition Expenditure,” unpublished manuscript. Box I-2, MG Everett S. Hughes Papers, Library of Congress Manuscript Division. It is helpful to remember that both Hughes and Aurand had field artillery backgrounds, lending a bit more credibility to these observations. Ruppenthal, Vol II, 444, 448-449.

really were two entirely different worlds, and it required a sophisticated commander and staff to integrate them.

Hughes' service in North Africa made him an organizational realist. After arriving in Algiers in February 1943, he spent the first two weeks trying to figure out the responsibilities of his new position and the organizations associated with it. This culminated in the reorganization project headed by Huebner in late April, which advanced a few proposed changes that Hughes felt were unnecessary and which Hughes contrived to get shot down by Eisenhower. The almost daily conflicts between Hughes and Smith over control of the AFHQ staff that filled May gave way to an uneasy peace for the duration of operations in the Mediterranean. Hughes managed to develop a system that worked with the personalities and organizational structure of the theater while keeping friction at a manageable level. He got along well with Gale, patched up his differences with Smith, and got on with the job. The official history of the AFHQ and NATOUSA admitted that the division of responsibility was unclear and unorthodox, but in the end it worked well enough. Hughes' written response to Moses at the end of 1943 showed that he had internalized the lesson that all organizations are unique, retain aspects that seem illogical or vague to outsiders, and in the end are answerable only to the commander and his principal assistants. Nothing would be perfect in the eyes of all inside and outside observers, and the real priority was to build something that worked for the commander, his chief of staff, and the senior logistics commander. This was a conclusion Hughes took with him to SHAEF and implemented as a roving observer and troubleshooter for Eisenhower for the rest of the war. It is perhaps an oversimplification, but at NATOUSA Hughes had learned to stop worrying about building a perfect wire diagram with associated duty descriptions and got on with identifying the skills necessary to provide theater-wide logistics. He was intensely loyal to Eisenhower, worked well

with Gale and Larkin, and learned how to tolerate Smith. It was an attitude that might have solved quite a few problems in the ETO.



Unlabeled
(Smith's Solution)

Huebner Reorg

Reality in Feb 43

Figure 3.3: Hughes' sketches during the reorganization debate in Feb 43

The most influential actor in the process of establishing the mission and structure of ETOUSA may have been its SOS commander, LTG John C. H. Lee. LTG Lee was another engineer who crossed over from the command track into the sustainment world late in his career. Lee had served as a staff officer with two different divisions in France in 1918 and was the commander of 2nd Infantry Division in 1942 when he was selected to head SOS for ETOUSA.³⁶ As a former combat leader, Lee was a strong proponent of geographical command authority (what Aurand would refer to as “line” command or authority) at the expense of functional or service chief chains of authority. Lee empowered strong base section commanders in Britain and France and fought to protect their authority from any encroachment by theater technical service

³⁶ BG James Harbord, the third and last SOS commander for the AEF, also commanded this division for a short time.

chiefs. Lee believed that the most important criterion for a successful sustainment operation was the combination of authority over planning and execution. Lee and the Somervell clique at the ASF believed that the senior commander who would execute the sustainment scheme must also drive if not control the planning process that produced it. Lee was perfectly willing to occupy two or three positions within the chain of command, or to provide senior deputies from his organization to do so, in order to unify planning and execution under one person. Lee felt professionally satisfied with the structure that emerged by July 1943 in which his deputy, MG Crawford, was simultaneously the ETOUSA G-4 and senior U.S sustainment planner on the COSSAC team.³⁷

By the end of the war, Lee argued that COMZ had accomplished its mission and that no change in process or organization was necessary. Senior leaders from the ASF, SHAEF, and combat formations disagreed, but Lee stuck to this position in every document produced under his supervision.³⁸ Lee argued that SOS and then COMZ did as well as could be expected with the resources provided in an inherently unpredictable endeavor. Preserving two principles was essential to success: dividing battlefield responsibilities into a combat and a sustainment sphere, and allowing the senior sustainment commander to influence theater operational planning to the maximum extent possible. The significant responsibilities of the theater headquarters were close enough to those of COMZ to make the two entities redundant; Lee believed the most efficient and effective solution was for SOS chief to perform both roles on behalf of the combined operational commander. Lee retained the purist position throughout the war, never bending in

³⁷ Technically Lee was the ETOUSA G-4 between July and October 1943, but he stationed Crawford in London and told him to focus on the operational planning and support mission with ETOUSA and COSSAC.

³⁸ Perhaps this was because the only way Lee could have successfully argued his innocence was by placing blame on his peers and superiors, a solution he was not interested in exploring. This project will demonstrate that some “failings” of COMZ were due to circumstances well beyond the control of LTG Lee, and in many cases he or his staff tried to fix them, unsuccessfully, before operations in France began.

his conviction that vesting more power and authority in SOS/COMZ, not closer integration with the fighting Army, was the solution to any logistical shortcomings. In his defense, Lee remained loyal to his various superiors; although he maintained a frequent working dialogue between himself and his staff with the ASF, he never used this outlet to try to undermine decisions with which he disagreed.

MG Henry Aurand served as the ETOUSA chief of ordnance and then as the Normandy Base Section commander during the campaigns in France and Germany. He managed to sabotage his influence with the SHAEF and COMZ staff with his abrasive personality and caustic method of writing and speaking, coming across as the logisticians' Montgomery. It was a shame, because Aurand seemed to have worked out a system to improve COMZ services with little to no need for additional resources and only by using a different organizational approach. Often insightful and sometimes compelling in his written observations, Aurand phrased them in a manner sure to make enemies and miss the opportunity to effect constructive change. A draft article written by Aurand in 1947 started out by stating that "...an analysis of World War II leads to the inescapable conclusion that those charged with its conduct either lacked knowledge of the logistic art, and the basic principles of organization; or they chose to disregard one or both."³⁹ Evidently this critique was aimed primarily at the U.S. Army. "While the failure to properly organize for operations in Europe may have been due in large part to the efforts of the British to stack the command cards in their favor, their success was due in no small part to the ignorance on the part of the U.S. high command of the logistic art."⁴⁰ Blunt statements like these obscured the value of some of this underlying observations.

³⁹ Aurand, "SHAEF-ETOUSA-COMZ", unpublished article, 1. Henry Aurand Papers, Box 64. DDE PL.

⁴⁰ Ibid, 4.

Aurand blamed the blind spot for logistics among combat arms officers on the poor education they had received on this subject at their branch schools. He believed that an appreciation for logistics among line officers was indispensable because it informed what was possible in the realm of strategy and tactics. Like Somervell, Aurand insisted that “[t]he logistician must precede the strategist, just as the strategist must precede the tactician.”⁴¹ LTC Osmanski, who had served on the logistics planning staff with COSSAC and SHAEF, agreed with this idea. It was his observation that, as the SHAEF planning staff gained combat experience in the fall of 1944, their understanding of the interplay between maneuver options and logistical constraints matured. As the staff reached the highest stages of professionalism in the early winter, planning sessions would begin with the question “what is logistically feasible” and then try to build a scheme of maneuver within that framework. Earlier efforts had started with the desired movement and tried to reverse engineer enough support to make the maneuver feasible.⁴²

Aurand had started his military career in the coastal artillery, but like Hughes, he soon transferred to ordnance. During World War Two, he worked at ASF headquarters, directed a service command in the United States, and acted as the deputy chief of ordnance for ETOUSA prior to taking over the Normandy Base Section in November 1944. He was frustrated with the organization of ETOUSA and the prominence of engineer officers in command and staff positions throughout the sustainment community. He made a passionate argument in an article written in 1947 that men with more practical experience in logistics and greater familiarity with detailed service doctrine would have helped SHAEF, ETOUSA, and SOS/COMZ immensely.

⁴¹ Ibid, 2.

⁴² LTC F.A. Osmanski, “The Logistical Planning of Operation Overlord, Part 3,” *Military Review* 29, no. 10 (January 1950): 59.

Like Moses, Aurand believed that Bradley should have been given formal authority over Lee, as either the 12th AG or ETOUSA commander. He strongly opposed functional chains of command in any form, either in the control of air or naval units, technical services, or special capabilities within the combat branches.⁴³ Like Lee and Eisenhower, Aurand was a champion of line or territorial authority and of the curtailment or even elimination of functional authority exercised on behalf of far-removed senior commanders. Aurand acknowledged that Lee had tried to establish the primacy of his base and advanced section commanders (geographical authority) over chiefs of service (functional authority) in both the U.K. and France. But by establishing too many base sections in France, Lee ensured the need of some higher-level organization to coordinate their interaction and any activity that had to cross from one to another. These were the tasks for which the technical service sections had been created and manned in the first place. Aurand presented an alternative solution that would have preserved the authority of the base section commanders while moving the burden of coordination down to their level and out of the hands of COMZ and technical services.⁴⁴

Aurand hammered home the point that his alternative structure was based on well-known quartermaster and ordnance doctrine, sources unfamiliar to the engineers and infantrymen who

⁴³ This was something of an obsession with Aurand, one that he tackled in “SHAEF-ETOUSA-COMZ” and in a series of lectures delivered while he was assigned as the commanding general of U.S. Army Pacific in the early 1950s. Functional command grants control over one type of equipment or service throughout the entire command, including the authority to override subordinate commanders deep within the overarching command. The alternative is geographical or mission-based, mixed-composition organizational command. A functional commander or special advisor to the commander might exist for artillery, tanks, air, or transportation assets across the width and depth of the command. Functional commanders or special staff for combat branches had largely been phased out of the U.S. Army by the end of 1943. The technical services retained functional authority through the chief of service positions in senior commands. By 1944 the Army Air Force was for all practical purposes its own separate military service; to preserve the illusion that it was just another part of the Army, it was controlled along functional lines. Functional authority existed in order to advise infantry officers on the proper employment of new technology and capabilities, to help commanders train and administer those specialized units, and to mass their effects on the battlefield when necessary.

⁴⁴ Hughes noted Aurand’s critique of the ETOUSA C2 structure in November 1944.

tended to call the shots at COMZ and 12th AG. Whether Aurand's solution would have eased or prevented the supply crisis of September 1944 will be taken up later, but he could see alternatives and mistakes that his engineer peers missed. His comments are unique because they focused on what COMZ could do internally to improve support. Aurand was an insider from the ASF who came to realize that an operational commander needed to synchronize logistics and maneuver; he offered an approach to structuring COMZ that would have reduced the burden of that task. Without clearly saying it, Aurand realized that the quasi-command authority of technical special staff chiefs was a part of the problem, and he believed that this function had to be absorbed by a more dynamic COMZ organization.

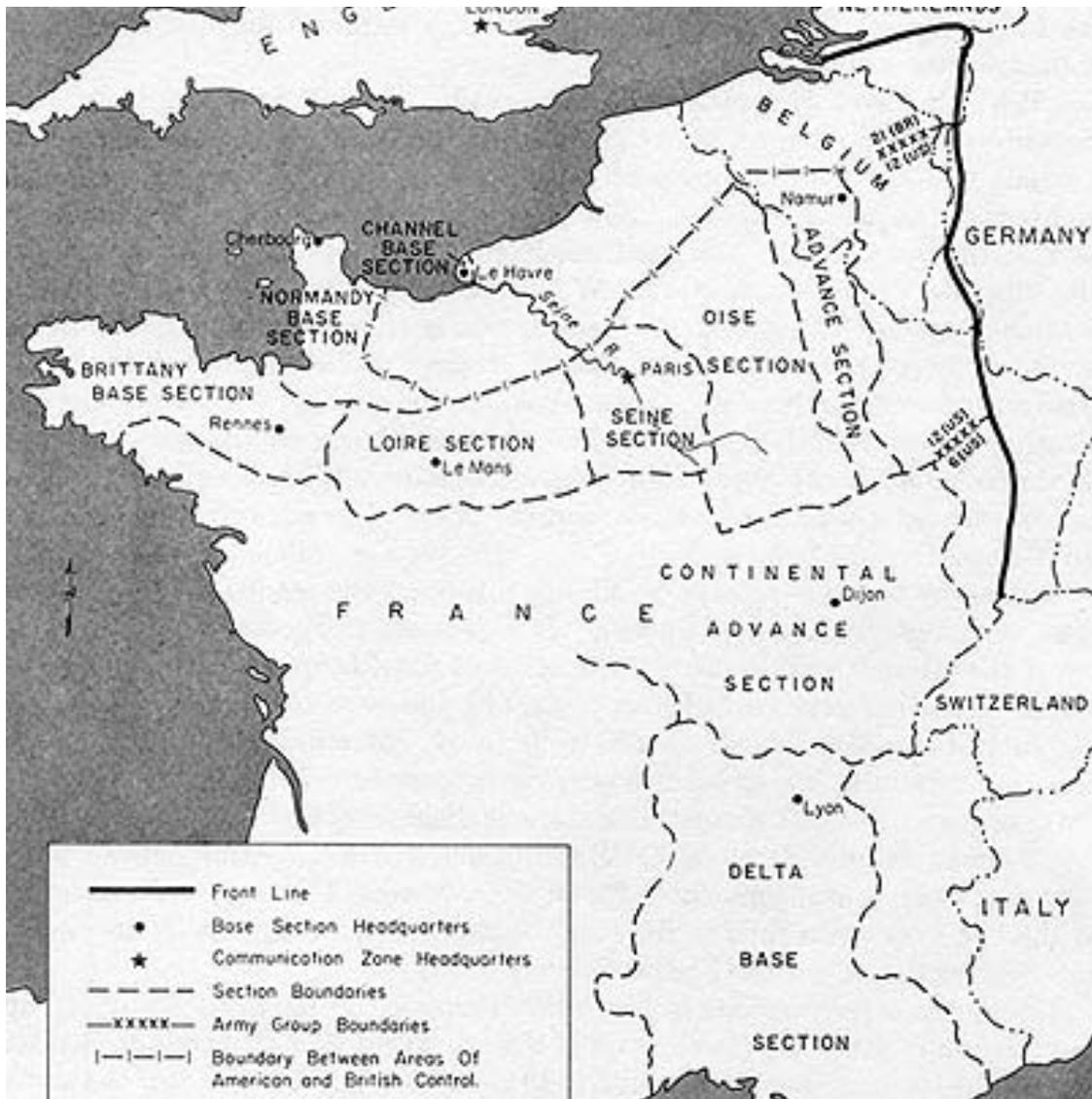


Figure 3.4: European Theater COMZ, Nov 44, from *Medical Department, Organization and Admin in WW II*

Learning from the British

Like the AEF, the British had problems with their lines of communications in France during the Great War. From 1914 to 1916 the British War Ministry managed the L of C, not the commander of the BEF, and this arrangement failed to meet the needs of the British force.⁴⁵ Near the end of 1916 more control over supply on the continent was shifted to Haig's

⁴⁵ Neumann, 366.

headquarters, followed by control over the resources necessary to make the L of C work.⁴⁶ The British finally acknowledged that horse-drawn carts and trucks could only do so much and that they would have to build a new light-rail network to move, from ports to the front line, the massive quantities of artillery ammunition used prior to offensives.⁴⁷ Because all British production associated with the railroad sector was already committed to contracts with the French, they were forced to buy material from the United States. The British also created a large labor force in France which they manned with civilian Chinese, Indian, and Egyptian porters recruited from across the Empire. Skilled train operators and line repairmen remained in short supply, forcing Haig to discharge infantrymen with rail experience to work in the zone of communications in mid-1918. Although the British operated their LoC over a much shorter distance than the Americans did, they emerged from the war with a trusted system that had successfully sustained mass modern warfare. Taken in context with the foundational role of logistics and distribution in other British combat theaters, the British Army learned a very different set of lessons about theater organization and the proper supervision of sustainment.

When Americans first encountered British field logistics in North Africa, they were impressed. Field force and theater commanders paid attention to logistics, and they phased campaigns based on the timelines and objectives that governed strategic and operational logistics. Army and theater headquarters were filled with administrative experts, support staff, and service troops. U.S. officers who served under Alexander or Gale, or who saw 8th Army and the Western Air Force in action, were impressed. They appreciated the dedicated and powerful

⁴⁶ LTG Humfrey Gale, interview by Forrest Pogue, January 27, 1947, 3. Pogue interview transcripts collected for *The Supreme Command*, maintained at AHEC.

⁴⁷ Mark Whitmore, "Transport and Supply During the First World War," Imperial War Museum, <http://www.iwm.org.uk/history/transport-and-supply-during-the-first-world-war> (accessed April 12, 2019).

staff role reserved for the administrative expert at the army level and above and the dual nature of his authority over both planning and command of troops in the field. Gale's position at AFHQ was the example that the largest number of Americans witnessed firsthand, most closely approximating what Lee envisioned for SOS and COMZ in the ETO.

Replicating Gale's performance at AFHQ would not be easy. Gale was a graduate of Sandhurst and a professional logistician. He had four years of experience as the deputy assistant director of transport for the BEF during World War One. Between the two wars he served in the Quartermaster General's office and was the assistant director of shipping and transport in the War Office. He was the chief administrative officer in III Corps, deployed to France in 1940, and then served as the Major General/Admin (MG/A) of the Scottish Command and then Home Forces before joining AFHQ.

The structure he established at AFHQ was unique, yet similar to that of a MG/A for a corps, army, or territorial command. Anderson's 1st Army would have its own MG/A; with no army group or regional command above him, Gale had to fill the role of both. Rather than saddle Anderson with the responsibility to control the line of communications command, Gale took on that responsibility. Gale was also the senior staff advisor and coordinator for administrative functions at AFHQ, answerable to Smith as the chief of staff and to Clark and Eisenhower as the deputy and commander. Gale prioritized his role as a staff officer, placing himself at AFHQ, first in London and then in Algiers. He was secure enough to submit to the authority of Smith, a man junior in both rank and operational experience, and wise enough to ensure that his less experienced bosses never made a terrible logistical decision. Gale was also wise enough to avoid public confrontation with the chief of staff. Gale carefully balanced operational planning, field inspections, and current operations at the theater level, leaving the daily affairs of the 1st Line of

Communications to its commander. As AFHQ's span of control grew and new British and U.S. intermediate headquarters formed, Gale worked hard to minimize overlap and eliminate gaps among combat commands, two national communications zone commands, and the combined headquarters.

In Normandy the British used a more traditional approach, where the line of communications command was placed under the army group commander. This was also the relationship between Devers' 6th Army Group and Larkin's SOLOC in southern France from mid-September 1944 to early February 1945. It would have been Aurand's preferred solution, and Moses' second choice for the relationship between 12th AG and Lee's COMZ. In hindsight Gale agreed that Lee should have answered to Bradley as well.⁴⁸ Regardless, transferring supervisory responsibility from the CAO to Montgomery simplified Gale's responsibilities at SHAEF when compared with his role in AFHQ. Crawford was more combative with Gale in preserving his autonomy as the G-4 than had been the case in North Africa, and his relationship with Lee was one of informal coordination and cooperation only.⁴⁹ Because of the scope of the operation and the layers of command between him and the executors on the ground, Gale was not nearly as effective at SHAEF as he had been at AFHQ at identifying and solving the command's major problems with logistics, at least until he convinced Eisenhower to make significant changes in September.

Either British model, paired with the right personalities and positioning of the staff on the battlefield, offered viable solutions to everyone's key concerns. Aurand believed that subordinating Lee to Bradley was the most logical and simplest solution to the ETOUSA

⁴⁸ Gale, interview with Pogue, 3.

⁴⁹ Gale, interview with Pogue, 1.

organizational dilemma. Curiously, the British did not feel compelled to establish a separate theater commander below AFHQ or SHAEF in either the Mediterranean or Europe to supervise the various services or independent ground commands. When Alexander's Middle Eastern Command linked up with AFHQ, he and his component commander were subsumed under Eisenhower. The service components of the Home forces produced the units and headquarters that invaded France, but their authority ended halfway across the Channel. The British felt no need to preserve three semi-autonomous command organizations for each theater; they were content to turn logistics over to the army group and operations to the joint-combined headquarters.

The British did understand the need for national joint planning teams, combined planning teams, and a role for national service commands to generate and prepare forces for combat. The responsibility for planning Roundup was transferred from the various ministries and staffs to COSSAC around March 1943. Home forces continued to train invasion units and supplement planning efforts until new field formations could pick up the slack, but, once 21st Army Group and the AEF were formed, they gracefully surrendered that authority. Compared with the U.S. Army, the British benefited from two deep traditions: empowering theater commanders who were accustomed to operating while disconnected from London, and putting one commander in charge of expeditionary forces, where victory depended upon effective logistics and functioning lines of communication as much as they did upon successful battles. They did not have powerful functional commands in London that tried to undermine the authority of a distant theater commander. (Churchill was more than capable of this on his own.) The RAF was already its own service with separate and distinct commands in Great Britain that allocated resources to specific tasks. It did not need an internal referee to prioritize resources between itself and the

Army. There was no British Somervell, and Harris had control over his heavy bomber force without having to negotiate their employment with a bunch of theater commanders, apart from his unsuccessful battle with Eisenhower during the few months before and after Overlord. There was a natural resistance to following the British lead throughout the war, but the United States Army would have benefited from copying a few of these approaches to senior command and synchronizing logistics from the U.K.

The Limits of a Theater Sustainment Command

There was a concerted effort among U.S. senior logisticians at the beginning of the war to consolidate command and planning authorities. They were not deliberately trying to copy the British system, but, if they had been successful, the effort would have created a position similar to the CAO at AFHQ. The ETO got very close to achieving this goal by July 1943; LTG Lee believed that SOS and ETOUSA reached its most efficient organizational structure with the expansion of his authority to include appointment as the ETOUSA G4.⁵⁰ It had taken fourteen months to get there, but Lee had finally managed to combine command of SOS, supervisory authority over the ETOUSA technical service chiefs, and his appointment as the theater G4. But unlike Gale in North Africa, Lee and SOS did not inspire confidence among his peers and some superiors.⁵¹

General Board Report Two disagreed with this consolidation of power in the hands of one man, an assessment seconded by LTC Osmanski, who was the ETOUSA deputy G4 in 1943. Osmanski thought that the growth of SOS power at the expense of the ETOUSA staff had made

⁵⁰ Ruppenthal, Vol I, 166.

⁵¹ Ruppenthal, Vol I, 264-265.

it harder and harder to conduct essential operational planning with their British counterparts. The special staff representatives seconded from SOS to COSSAC steadily lost their independent authority to make decisions, provide recommendations, or even seek timely guidance from SOS headquarters, reaching a low point in their relevance by September 1943.⁵² Osmanski contrasted the balance maintained first by Eisenhower and then by Andrews with the situation approved by Devers soon after his assumption of command at ETOUSA. The environment established under Eisenhower from July 1942 to February 1943 had allowed the ETOUSA G4 to fulfill his operational planning responsibilities with the British, but the American staff lost both raw numbers and talent when AFHQ deployed to Algeria.⁵³

After the arrival of Andrews and the resulting minor reorganization that followed, it became harder to coordinate with the technical services. Osmanski noted that the "...ETOUSA G-4 could contact the Theater Services only by writing formally through the [SOS] Adjutant General."⁵⁴ This trend intensified after the arrival of Devers in May 1943. Devers agreed to make Lee the ETOUSA G-4, a development that Osmanski believed should "...have seemed to effect a closer tie between the theater strategic logistical planners and the Technical Services, but which actually served only to put greater emphasis on planning the buildup (Bolero) in the theater than on planning for logistical operations on the Continent."⁵⁵ The situation came to a head in September when the British head of COSSAC, LTG Freddie Morgan, insisted that he be given more support and coordinating authority to prepare for the Overlord operation. Osmanski summarized the period before the creation of SHAEF thus: "...relationships between the logistical planners at COSSAC and the theater Technical Services under SOS might have been

⁵² Osmanski, Part I, 37-38.

⁵³ Ibid, 34.

⁵⁴ Ibid, 34.

⁵⁵ Ibid, 36.

effective had it not been for the interposing Office of the Chief of Services (really G-4, SOS) with which there was from the start a lack of mutual understanding.”⁵⁶

Regardless how rosy any leader or historian painted the relationships within ETOUSA by the fall of 1943, at least one staff officer found them less than optimal.⁵⁷ Consolidation of logistical authority seemed to work within the British system as executed by Gale during Torch. For the Americans, however, empowering Lee at the theater level while allowing him to retain command of SOS did not work. Lee and his key subordinates could not strike the balance needed to administer the American buildup in Great Britain while planning combat operations on the continent. Gale had prioritized operational planning and control by positioning himself at AFHQ while trusting subordinates to run the base sections and LoC command. He had a firm grip on the combined G1, G4, and service sections, personally chaired a daily administrative meeting, and worked closely with Smith and Hughes. In North Africa Gale got out of the headquarters to inspect battlefield conditions himself, but he managed to strike the balance between command and delegation. Finally, he seemed to find a way to work with the people who ended up in his sphere; missing are the rotating cast of subordinates one saw in SOS headquarters during its first eighteen months of existence.

In contrast, Lee spent most of his time emphasizing his command position, visiting service troops across Great Britain and supervising his team at Cheltenham. SOS was blessed with extremely competent chiefs of services, but the chief of staff and G-4 position at SOS saw non-stop rotation until Lord and Stratton managed to earn Lee’s confidence. In contrast to Lee, few other senior logisticians thought much of the SOS staff; Lutes believed that Lee should have

⁵⁶ Ibid, 38.

⁵⁷ LTC Osmanski was a pretty special officer. He graduated from USMA in 1935 and branched field artillery. He held duties of great responsibility in ETOUSA and SHAEF as an LTC and would go on to serve as the MAC-V J4 from 1962 to 1965. Frank Osmanski retired as a Major General.

replaced both Lord and Stratton before Overlord.⁵⁸ Lee could not maintain an effective working relationship with Hughes or Crawford when they were his subordinates, and he tended to have frosty if professional interactions with Moses. Friction developed between SOS and the operational U.S. planners at ETOUSA and COSSAC and between Lee and his peers in FUSAG and 8th Air Force during the second half of 1943. As a result, Lee and SOS were not capable of effectively employing the power they had fought to consolidate. Lee and SOS remained at heart an administrative support command that struggled to connect with the fighting commands or contribute to operational planning. Gale had demonstrated that preference among senior U.S. leaders for a powerful sustainment organization that combined staff and command authority could work, but only under a seasoned officer with just the right approach, attitude, and personality. General J.C.H. Lee's strengths lay in other areas.

Just as was the case in North Africa, constant tweaks to the chain of command did not help matters. Almost every author who addressed the perceived weaknesses and shortcomings of ETOUSA acknowledged that frequent changes made those problems much worse. In hindsight, some observers concluded that a less elegant solution, well understood and followed by all, might have produced better results in France. Just looking at U.S. efforts in Europe and Africa, the Army seemed to experiment with a bewildering number of approaches in establishing relationships between the four types of headquarters.⁵⁹ On one hand this was a practical manifestation of the shortcomings of U.S. doctrine. It was understandable that the U.S. Army had failed to solve the puzzle of running theater logistics and integrating them with combat during the interwar period. But by the time new additions were published in 1943 and 1944, it

⁵⁸ Ruppenthal, Vol I, 262-263.

⁵⁹ Sustainment, combat, U.S. theater, and joint-combined.

seems logical that recent experience could have provided insight on effective methods, key considerations, and mistakes to avoid. If doctrine could have presented a unifying vision with some definitive guidance on how to implement that concept, combined with consistent application of those principles by the War Department, it might have ended the calls for reorganization and focused everyone on making the proposed system work. On the other hand, American doctrinal flexibility and the experimentation it permitted ensured that one bad solution was not crammed down everyone's throat. Commanders tried different approaches and adjusted as they gained experience. In each case the solution was a distinctive one that conformed to the priorities and style of the senior American leader, the particular challenges of his theater, and the strengths and weaknesses of his team. An opportunity was missed when some of these emerging lessons and insights were not captured in the 1943 and 1944 versions of *FM 100-10* and *FM 100-5*, but obviously the War Department had other priorities.

The Impact of SPOBS and USAFBI on ETOUSA

Any theater headquarters would have struggled to define and protect its role in early 1942, but ETOUSA found it uniquely difficult because of the bad reputation of its precursor, USAFBI. As noted in chapter one, the U.S. Army had empowered the chief of staff and a semi-autonomous theater communications command at the expense of the expeditionary headquarters after World War One. This alone would have made life at ETOUSA very difficult, undermining the theater commander's authority to plan, prepare, and conduct operations. But ETOUSA also inherited the relationships and institutional norms of the SPOBS and USAFBI, which contributed significantly to the troubled relationship between themselves, the War Department, and the commands assigned to ETOUSA. But that same institutional legacy ensured that ETOUSA was

the only American military organization that had an effective working relationship with a wide range of British counterparts, both military and civilian. A feeling that USAFBI was out of the loop, or had become too British, contributed to the decision to limit the authority of ETOUSA and the relief of its first commander, MG Chaney, a few weeks after the command was established. By May 1942 many in Washington, D.C. considered USAFBI a backwater, out of touch with current War Department thinking and manned by a tiny staff. ETOUSA was established during a period when Chaney and his staff were considered irrelevant or incompetent by Marshall, Arnold, and Eisenhower. The conditions surrounding the birth of ETOUSA seriously undermined the credibility of the command for the first year of its existence, thus delaying its evolution into a synchronizing agency between the support and combat elements under its control.

ETOUSA was a third-generation descendent of the special observer mission (SPOBS) established by the U.S. Army in London in the fall of 1940. This was a small group of officers and enlisted soldiers in civilian clothes working out of the U.S. embassy at Grosvenor Square under the direction of an Army Air Force officer, MG James E. Chaney. Officially known as the Special Observer Group (SPOBS), their purpose was to learn as much about modern warfare as possible from the British. After March 1941, the command added the responsibility to supervise Lend-Lease in the U.K. SPOBS/USAFBI spent the last twelve months of its existence conducting contingency planning with the U.K. government and military, supervising the transfer of British overseas bases to American forces, and establishing the framework necessary to deploy, station, and sustain a large U.S. force in Great Britain proper.

When in the summer of 1941 the primary mission of USAFBI was expanded to include the deployment of U.S. forces to the British Isles and their integration into the joint defense plan,

the first steps towards Bolero and Overlord were taken.⁶⁰ To accomplish this mission the team visited potential air and naval bases in Northern Ireland and Scotland; the guiding concept was that the U.S. Navy and Army Air Forces would operate from these bases and the Army garrison would defend them from the Germans.⁶¹ In addition, as discussed at ABC-1 from February through March 1941, the U.S. would garrison Iceland as soon as possible to release British land and air units for more pressing duties elsewhere. Early in the process American planners gravitated towards bases in the north and west of the British Isles for several reasons. Should the United States enter the war upon short notice, or before the summer of 1942, the most relevant element available and the one easiest to deploy would be the U.S. Navy. Operating from the east coast of the U.S., eastern Canada, Iceland, Northern Ireland, and Scotland, the U.S. Navy would provide immediate help in securing the northern convoy routes to the U.K. and U.S.S.R. Picking potential U.S. airbases was as simple as identifying the ones recently vacated by the British as they shifted forces to the Middle East and southern and eastern England. Northern bases were relatively empty, and the American heavy bombers had the range to reach occupied Europe from those locations. The U.S. Army would be placed out of harm's way, occupy empty barracks and underutilized training areas, and stay close to the other U.S. services in order to simplify the logistical challenge.⁶² As early as the summer of 1941 the American forces tended to be clustered in western and northern Great Britain. This preference was driven by the location of the closest ports, empty facilities, and security from German air and maritime attack.

⁶⁰ Ruppenthal, Vol I., 16.

⁶¹ Niall Barr, *Eisenhower's Armies: The American-British Alliance During World War II* (New York: Pegasus Books Ltd., 2015), 134.

⁶² Barr, 134. Initially the United States committed to providing a regimental-sized combat team, called the "Token Force," to help defend the United Kingdom from invasion in 1941. This force was to be based in Kent, or almost directly opposite Calais on the Channel. Soon after U.S. observers examined the state of the defenses in the spring of 1941 the idea was shelved. Once the Germans invaded Russia in June 1941, British concerns with an invasion faded and the Americans were free to station troops in the northern and western corners of Great Britain.

It is difficult to understand how simple decisions made years earlier took on a life of their own and slowly eliminated future options. Without some massive external pressure to rethink the U.S. ports of entry and footprint in the U.K., the gradual deployment of Army forces made significant change in the future harder and harder. The tipping point was probably reached in the summer of 1943 as airfield, barracks, warehouse, and headquarters construction shifted to high gear. From that point on it was virtually impossible to relocate the U.S. Army to southeastern Great Britain. By default, it would make much more sense to land the Americans in the west and form the right wing of the Allied Army in France. Perfectly logical preferences developed in the summer of 1941 exerted an irresistible force two years later, convincing COSSAC planners it would be too much hassle to shift the Americans over to the left flank in Normandy.⁶³ It is worth remembering this example when evaluating how realistic some suggested solutions to Allied mistakes were. Logistics often drove what was considered in the realm of the possible and reasonable among Allied planners, and logistical preparation required much longer lead times than most people realized.

The work accomplished by the SPOBS in 1941 was essential to what eventually became Operation Bolero, and influenced Torch, Roundup, and Overlord. By the spring of 1942 SPOBS/USAFBI knew virtually everyone in the U.K. government involved in the steps necessary to receive, disperse, house, and sustain U.S. air and ground units.⁶⁴ But the mutual defense of Great Britain contemplated in Rainbow-5 also forced Chaney and his staff to examine joint and combined warfare to a level of detail and complexity that the U.S. military was unprepared to handle.⁶⁵ Early work by the SPOBS working hand in hand with their British

⁶³ Richard H. Anderson, "Special Observers: A History of SPOBS and USAFBI, 1941-1942" (PhD diss., University of Kansas, 2016), XX.

⁶⁴ Anderson, 323-330.

⁶⁵ Anderson, Chapter 5.

counterparts exposed shortcomings in U.S. doctrine, which forced the War Department to refine some of its procedures as early as September 1941. What emerged over the next five months was a widening gulf among SPOBS and the GHQ, AAF, and War Department over the proper way to distribute and employ U.S. forces in the United Kingdom. Chaney prioritized the guidance contained in ABC-1 and Rainbow-5 while the War Department tended to skip ahead to conditions well beyond the short-term defense of the Western Hemisphere and British Isles. The War Department was beginning to have buyer's remorse in the agreements contained in the two plans even as Chaney felt compelled to stick to the formal agreements accepted by the British. It was a short leap from there to rumblings that the SPOBS had gone native by December 1941.⁶⁶ Regardless, by May 1942 USAFBI was the American organization in London with the contacts, experience, and deep and nuanced understanding of joint and combined operations. That they understood the issues better than the War Department and were willing to point out the resulting problems did not endear them to various leaders in Washington.⁶⁷

Obviously, the mission of SPOBS was complicated by the fact that the United States remained a non-belligerent until December 1941, limiting what SPOBS could accomplish during its first fifteen months in the U.K. Things began to change, slowly at first, but then very quickly, after the bombing of Pearl Harbor and U.S. entry in the war. On 8 January 1942 SPOBS was renamed the U.S. Army Forces in the British Isles (USAFBI) and given expanded authorities to coordinate combined operations to accomplish the mission. Over the coming months the

⁶⁶ Anderson, 245. The most contentious issue between SPOBS and the War Department by the winter of 1941/1942 was the employment of American air power in Great Britain. It was the most significant cause of Chaney's downfall and the move to sideline ETOUSA at its inception.

⁶⁷ Anderson, 359-360, 380. Forced to try to sell Arnold's plan for stationing 8th Air Force in Britain as an autonomous organization with no responsibilities to contribute to sector air defense, Chaney had to repeatedly pass along the stinging British criticism of Arnold's ideas. During Marshall's April 1942 trip to London, the USAFBI provided frank feedback on why they believed Sledgehammer and Roundup were impossible in 1942 or 1943.

command was overwhelmed trying to manage the flow of U.S. units to the U.K. and to coordinate travel for the host of delegations moving between Washington and London. Reaching consensus on the first Allied offensive priority was impossible at this stage, but everyone could agree that basing U.S. forces forward in Great Britain would generate more options than leaving those forces in the Western Hemisphere. Once shifted to the U.K., American forces could be used in *Gymnast* or *Sledgehammer* in 1942 or in *Roundup* in 1943.⁶⁸

Visits by three senior leaders and the arrival of MG John Lee with his SOS staff in late May set the conditions for the transition of USAFBI into ETOUSA between April and June 1942.⁶⁹ A general perception that USAFBI was out of touch, too soft, or too close to the British reinforced the pre-existing tendency for the War Department to undermine the authority of ETOUSA from the moment it was created. Marshall left London in April 1942 convinced that he needed a more forceful personality running the theater, one better in tune with current War Department thinking. Eisenhower seconded this opinion at the end of his own visit to the theater in late May.⁷⁰ General Arnold contributed to the erosion of the reputation and authority of USAFBI with a short visit of his own. Arnold spent a few days in London at the end of May, managing to work out a compromise with Portal on the employment of 8th Air Force in Great Britain, but fatally undermining the credibility of the USAFBI in the process.⁷¹ After this

⁶⁸ *Gymnast* was the code word for existing British plans to land in North Africa. The Allies completed a draft concept for *Gymnast* (later *Torch*) by March 1942. *Sledgehammer* was the emergency invasion of France in 1942, and *Roundup* was the code name for a more deliberate and larger invasion of France sometime in 1943.

⁶⁹ This is covered in commendable detail and clarity in Chapter 11 of Richard Anderson's "Special Observers: A History of SPOBS and USAFBI, 1941-1942."

⁷⁰ Anderson, 375, 377.

⁷¹ Anderson, 361-362. Arnold managed to set up the meeting with the British Air Ministry while keeping it a secret from Chaney. The Americans were represented in the meeting by Arnold, Eaker, and two relatively junior members of Chaney's staff (Lyon and Snively).

meeting, it became obvious to the British that only Eaker and Arnold could talk authoritatively about what the USAAF would and would not be willing to compromise on.

USAFBI suffered a second stinging defeat only a few days prior to the incident at the Air Ministry. Immediately after Marshall's visit in April, Chaney had realized that he needed his own SOS organization to accomplish his expanding mission. On 2 May Chaney cabled the War Department asking for authorization to establish a SOS with five functional departments: depots, transportation, construction, administration, and replacements and evacuation.⁷² At the same time, Somervell had taken the steps necessary to establish and man an SOS for ETOUSA with assets from within his own headquarters. MG John C. H. Lee was hand-selected by Marshall and Somervell and pulled out of command of the 2nd Infantry Division at Fort Sam Houston Texas to lead this new organization.⁷³ Lee spent from 5 to 19 May selecting his general and special staff chiefs from the cream of Somervell's department heads, drafting lines of authority, and visiting key members of the theater supply system charged with sustaining the effort in Europe.⁷⁴ Lee's team arrived in London on 24 May with very specific instructions, signed by Marshall, outlining how SOS was to be organized and its responsibilities relative to ETOUSA and the War Department. These instructions were problematic, undermined the command authority and reason for the existence of ETOUSA, and triggered an eighteen-month battle to arrive at a workable compromise.

⁷² Ruppenthal, Vol I, 33. This was based on the functional arrangement of the sustainment command supporting the AEF in World War I, and not the reorganization of SOS at the War Department engineered by Marshall and Somervell two months prior.

⁷³ Somervell had briefly worked for Lee in France in 1918 where Lee was chief of staff of the 89th Division and Somervell the G3.

⁷⁴ Ruppenthal, Vol I, 35. Lee *Service Reminiscences*, 81-83. Lee also visited MG James G. Harbord, Pershing's chief of supplies at the end of World War One.

The issue perfectly encapsulated a debate going on at the highest levels and throughout the U.S. Army over control of logistics in theaters of war, echoing the same issue Chaney had faced in his dealings with Arnold. In two months, the credibility of Chaney and his staff was significantly eroded, and the theoretical authority of a theater of war relative to the War Department, and more importantly its three subordinate commands, was gravely undermined. The only positive development of the three visits in April and May, at least from the perspective of USAFBI, was the fact that the staff finally convinced the War Department that they needed not just more resource but more formal authority as well. On 8 June the War Department issued an order to this effect, creating ETOUSA and (temporarily) retaining Chaney as its first commander. But by the summer of 1942 the U.S. War Department had clearly signaled that it was willing to allow Arnold and Somervell to undermine and override a theater commander. When ETOUSA was established, it was difficult to perceive exactly what Marshall expected Chaney, or any theater commander for that matter, to accomplish.

The Evolving Relationship among ETO, SOS, and Allied HQ

The story of ETOUSA from June 1942 to its merger with its SOS on 17 January 1944 mirrors the dawning realization of the irrelevance of a U.S. Army theater headquarters within a setting dominated by joint combined operational headquarters on one hand and by the powerful subordinate commands within the War Department on the other. ETOUSA, handicapped by a commander and staff who had fallen out with the War Department by the time it was created, had almost no authority over its two most significant subordinates, the 8th Air Force and its Service of Supply. ETOUSA remained a backwater until two almost simultaneous developments: the arrival of General Jacob Devers as its new commander, and the renewed

commitment to a combined bomber offensive and Roundup at the Trident conference. For the next six months ETOUSA functioned more as doctrine directed, driving two of its subordinates to accomplish theater objectives and working cooperatively with the British to plan the return to France. It was only during the aftermath of the Quadrant Conference in late August that Devers, working in close concert with Marshall, began to realize that ETOUSA was an organization with no future after the operational headquarters for Overlord were established. Starting in early October the best personnel were transferred to COSSAC and the newly activated U.S. First Army Group (FUSAG) to conduct detailed planning and preparation for the invasion. Eisenhower would complete this process in January by merging the ETOUSA and SOS staff and leaving Lee effectively in command of the combined organization. But just as ETOUSA lost its role as the theater synchronizer, SOS saw a significant reduction in the scope of its duties, and the emergence of rivals in FUSAG and SHAEF. The history of ETOUSA and its SOS between the summer of 1942 and the summer of 1944 captures in miniature the U.S. Army's evolving approach to theater-level command and maneuver and sustainment integration.

| Phase | Dates | Commander / Lead HQ | Focus Areas and Key Documents |
|-------|--------------------|---|---|
| I-A | 24 May 42 – Feb 43 | Chaney -20 Jun 42 Eisenhower 24 Jun- | Creation, Friction, Normalization 8 Jun – ETOUSA activated; GO 19 20 Jul; move to Cheltenham; Torch; Bolero planning and execution |
| -B | 9 Feb – Sep 43 | Andrews Feb - May Devers 8 May- | NATOUSA breaks away; Bolero slows; May – COSSAC; May – Bradley and 1 st AR; max SOS authority |
| -C | Sep 43 – Jan 44 | Devers | Rise of COSSAC and Overlord planning; SOS weakened |

| | | | |
|------|-------------------|------------------------------------|---|
| | | | Sep – Marshall and Devers on GHQ/AG for France* 19 Oct – FUSAG; 8 Oct – ETO G4 |
| -D | 17 Jan - 6 Jun 44 | Eisenhower Smith | ETO and SOS staffs merged; rise of SHAEF Staged planning: 1 st AR, FUSAG, 21 AG, SOS, SHAEF |
| II-A | 6 Jun – 27 Jun 44 | 1 st AR | 1 st Army and 21 st AG responsible for sustainment in France |
| -B | 28 Jun – 17 Jul | 1 st AR (21 AG in COMZ) | 1 st AR with ADSEC administering a COMZ 21 st AG coordinating authority |
| -C | 18 Jul – 1 Sep 44 | 12 th AG | 12 th AG responsible for sustainment in France Assisted by ADSEC / FECZ in COMZ area |
| -D | 1 Sep 44 - Feb 45 | SHAEF | Projected Activation of COMZ and SHAEF in France 6th AG Activated/Attached to ETO on 15 Sep |
| -E | Feb to VE Day | SHAEF | SOLOC consolidated with COMZ/ETO |

Table 3.1: The various phases of ETOUSA’s history

*Assumed Marshall would command Overlord as the SAC

The War Department Agrees to Establish ETOUSA

In mid-May 1942 the War Department published very specific guidance, over Marshall’s signature, directing how the ETO and SOS would be set up and run, a document subsequently referred to as the “14 May directive.” In this message, Chaney was directed to set the ETO up with three major subordinate commands (air, ground, and SOS) and a headquarters with a “minimum of supply and administrative services”; these instead would be grouped under Lee.⁷⁵ The guidance in the directive on how SOS would be structured was very precise and restrictive:

⁷⁵ Office of the Chief of Staff, “Organization Services of Supply” 14 May 1942, Appendix 22 to USFET General Board Report 2, 1.

“It is . . . desired that such administrative and supply officers as are now serving at your headquarters be made available for assignment to your services of supply in conformity with the organization adopted.”⁷⁶ In the official history of logistical support in the ETO, Ruppenthal argued that Marshall wanted to replicate his just completed reorganization of the War Department out in the various theater commands. The very organization of the theater staff would force commanders to focus on policy, long-range planning, and operations while delegating routine matters to others. It would consolidate all administrative support in one organization modelled on Somervell’s SOS in D.C.⁷⁷ Ruppenthal also suggested that Somervell had manipulated the 14 May directive to assign as much power as possible to Lee, and thus to the WD SOS, at the expense of the theater commander, Chaney. The document pointed out some small measure of flexibility in the final arrangements – the table of organization of SOS for the War Department was provided, but it “need not be slavishly followed at your headquarters, [although] it will, in the main, be the pattern for similar organizations of the Services of Supply in the British Isles.”⁷⁸

On the whole, Marshall tended to allow his senior subordinates more latitude when it came to setting up and running their own affairs, and the 14 May directive seemed out of step with this habit. On one hand, Marshall had probably already decided to replace Chaney with someone whom he trusted to drive home the planning and preparation for Bolero and Roundup, and it is likely that both he and General Smith only glanced at this document, leaving the specific language to Somervell and the WD SOS. Once appointed and settled in, Chaney’s replacement would be free to work out minor changes as he saw fit. Somervell wanted to ensure that SOS in

⁷⁶ Ibid, 1.

⁷⁷ Ruppenthal, Vol I, 36.

⁷⁸ “Organization Services of Supply”, 1.

the ETO mirrored his organizational structure as much as possible, thus simplifying direct coordination between the two entities and ensuring that the technical services remained under the firm grip of General Lee. The document set a bad precedent because it limited the authority of the ETOUSA commander to organize and directly supervise his team as he saw fit, at least until someone convinced Marshall to make major changes to the original guidance.

General Chaney faced a difficult position. On one side he was constrained by clearly written instructions from the Chief of Staff of the Army, instructions reinforced by the arrival of MG Lee with his staff on 24 May. Lee landed in London with a mandate from Somervell to run sustainment in the ETO in accordance with the War Department SOS model and with the 14 May directive. But the USAFBI staff understood the two fundamental problems that following this guidance to the letter would entail. First, the mission of USAFBI, now and into the foreseeable future, consisted almost exclusively of tasks that SOS claimed for themselves. With no combat operations to plan or synchronize beyond the buildup of forces, the USAFBI staff would be reduced to a liaison element with their British counterparts under the Somervell model. Second, as the buildup progressed, only the ETOUSA staff would have the perspective and authority to adjudicate among the Eighth Air Force, V Corps (the original senior ground combat headquarters in the U.K.), and SOS, and daily access to their British counterparts. The USAFBI G1, BG John E. Dahlquist, touched on the heart of the matter in a memo to his chief of staff written on 1 June 1942.⁷⁹ Dahlquist feared that SOS would be perceived as a biased organization – even if they could remain impartial, the air and ground elements would not see it that way. Only the USAFBI/ETOUSA staff had the authority to set priorities among subordinate elements and then enforce those decisions. In order to understand the situation and publish

⁷⁹ Ruppenthal, Vol I, 38.

appropriate instructions, ETOUSA required its own general and special staff, and control of the theater special staff was the most important aspect of the emerging battle for control. Lee brought his own chiefs of service from the United States, highly qualified experts hand-picked by him and by the WD SOS leadership, based on the assumption that they would serve within SOS. Chaney and his staff were asking that these men be shifted up to ETOUSA or that he be given a duplicate set of equally qualified men at both commands, all the while trying not to overtly violate or explicitly challenge the clear guidance issued by Marshall in the 14 May directive.⁸⁰

Chaney's position was slightly strengthened by the official activation of ETOUSA on 8 June, which had the implied task of planning for and eventually controlling combat operations on the continent. Trying to redress the imbalance between ETOUSA and SOS created by the 14 May directive, Chaney cited the inherent authority of all commanders. Historically, American Army commanders had been given formal authority over every element critical to the accomplishment of their service missions and the freedom to organize their staffs and execute operations as they saw fit. Hoping to draw on this traditional authority, Chaney attempted to make minor modifications to the 14 May directive. ETOUSA issued orders on 8 and 13 June directing a reorganization of the theater special staff, but Chaney could not finalize the issue with Lee and Marshall before his relief and replacement by Eisenhower. The 13 June proposal issued by ETOUSA attempted to split the baby: most (11 of 15) special staff sections would locate with

⁸⁰ A special staff divided into two logical elements: technical service chiefs and policy advisors to the commander. Most agreed that the inspector general, adjutant general, provost marshal, judge advocate general, chemical warfare, and air-defense artillery chiefs needed to reside at the theater headquarters or be represented at both theater and SOS. Most observers also agreed that transportation, quartermaster, ordnance, engineer, finance, medical, and signal chiefs could perform their theater duties working for SOS commander. Most of the arguments over organization in the coming three years would revolve around nuances in these two positions, and the relationship of technical service chiefs to regional sustainment (base section) commanders.

and work for SOS while maintaining planning and liaison elements at the theater headquarters in London. SOS could direct and coordinate routine administrative and technical matters to their peer commanders (V Corps and Eight Air Force) and the departments and ministries but would not “interfere with ‘inherent command responsibilities of other force commanders.’”⁸¹ The document issued on 13 June spelled out in detail what SOS could and could not do, including a list “a” to “t” of its specific authorities. The guidance published by ETOUSA in June illustrated potential friction points but offered no viable solutions because the instructions contained in the document did not survive the transfer of authority between Chaney and Eisenhower at the end of the month.

Eisenhower took over as the commander of ETOUSA on 24 June; Chaney left Great Britain on 20 June, without the chance for any sort of face-to-face discussion or formal handover. Eisenhower knew of the ongoing debate over the structure and authority to be vested in ETOUSA from letters he had received from the USAFBI chief of staff, BG Bolte, at the end of May. Ike’s interim solution to the division of labor between ETOUSA and its SOS was explained in General Order 19, which was published on 20 July. Eisenhower enjoyed three advantages over Chaney that contributed to his freedom of action: he enjoyed the complete trust of Marshall, he understood that Marshall’s one number one priority over the next six to twelve months was to get an American army ready to invade France, and he had a deep contextual understanding of how Marshall approached command, management, and delegation. The

⁸¹ Ruppenthal, Vol I, 42-44. This is incredibly confusing to anyone who is not an expert on how the Army shares authorities and responsibilities. Technical service troops were assigned at every level from division to COMZ. The ordnance company in a U.S. armored division followed day-to-day instructions from the division chain of command. The methods of conducting ordnance repair work were established by the service chief of ordnance (and his representatives throughout the chain of command) and the base section or COMZ regional commander. The overlap should be minimal and center around relatively insignificant issues that can be easily deconflicted when discovered. But there will almost always be an exception or two complicating these rules of thumb.

general orders published on 13 June and 20 July were so similar that they were almost indistinguishable; Eisenhower granted Lee additional authority over two areas that Chaney had wanted to retain for ETOUSA. Under Eisenhower's plan, Lee and SOS gained responsibility for theater-wide sustainment planning in support of combat operations, and SOS was authorized direct access to department and ministry representatives for all administrative, logistical, and technical matters.⁸² Lee could not publish directives that would infringe on the inherent authority of ground or air force commanders, and any chief of service had to submit theater-wide guidance to ETOUSA for Eisenhower's approval first. This insured that the ETOUSA chief of staff would remain informed and could modify special staff instructions as necessary before they reached the commander. Eight special staff sections would collocate at Grosvenor Square with the rest of the ETO staff, while the other ten joined Lee at his new headquarters at Cheltenham (about 90 miles to the northwest of London). Even then these ten sections were directed to maintain a liaison element in London.⁸³ Round one had gone to ETOUSA; SOS would not independently run the special staff for the theater.

Torch and Bolero

A few weeks after the official reorganization of ETOUSA, preliminary planning for Torch began, a process that had accelerated into full gear by mid-August. Some observers claimed that there was too much compartmentalization among SOS, ETOUSA, and AFHQ headquarters, which tended to leave Lee and his staff out of the loop; given the participation of

⁸² Ruppenthal, Vol I, 44.

⁸³ Ruppenthal, Vol I, 44-45. Eisenhower kept the SJA, PM, AG, IG, Chaplain, air technical service, and AA section in London and allowed Lee to take the ordnance, transportation, medical, quartermaster, signal, engineer, surgeon, finance, chemical warfare, depot services, and exchange service sections to Cheltenham.

the theater technical service sections in the Torch planning process on a daily basis, this is hard to believe.⁸⁴ It is fair to assume that SOS staff was focused on other duties that fall, including the search for and move to a new headquarters at Cheltenham, integration of tens of thousands of desperately needed U.S. service troops, and searching for equipment critical to the success of Torch that had disappeared into the British depot system. In the first four command and staff meetings held by SOS since its arrival in the United Kingdom, no operational issues relevant to supporting the AFHQ in North Africa were discussed.⁸⁵ Lee opened the session on 9 November by providing a short summary of the events from the following day. He also reminded them that the command had to learn from difficulties encountered while trying to get the expedition launched, calling everyone's attention to the deficiencies at the ports noted by COL Ross during his deployment to Algiers. As already noted in chapter two, ETOUSA struggled to stay relevant, persisting in holding a daily CAO coordination meeting in the gap between Gale's departure and his resumption of control in Algiers, but with no understanding of how they could contribute to the operation. Both ETOUSA and SOS had been largely boxed out of Torch once the assault convoy left the U.K., and Lee was fine focusing on other priorities.

Busting the seams of the office space available around Grosvenor Square, SOS was offered a custom-built command and control installation recently completed at Cheltenham.⁸⁶

⁸⁴ USFET General Board 128 "Logistical Build-Up in the British Isles", 10. The senior author was MG Royal B. Lord, chief of staff of SOS/COMZ, and deputy chief of staff, ETOUSA. SOS chief of transportation and ordnance, Colonel Ross and Colonel Hughes, were both attached to the Torch planning staff. Larkin, SOS chief of staff for most of the planning phase, was present at Gale's first CAO conference on 22 August, and almost every meeting thereafter.

⁸⁵ SOS C&S Notes, 2 and 24 Oct, 2 and 9 Nov 42. RG 498, UD 578, Box 3882, ADM 453, NARA II.

⁸⁶ Ruppenthal, Vol I, 83. The site was a set of alternative offices for the senior civilian and military headquarters located in London. Had the Blitz made these offices impractical the government would have displaced to Cheltenham. Lee looked at the facility for the first time in early June 1942, and the move was complete by 25 July. The new location placed SOS staff closer to the major ports, bases, and lines of communication that the U.S. Army would use to build up its footprint in Great Britain, and there was plenty of room for expansion. It was a much more austere location than central London – Lee could hardly be accused of seeking excessive comfort and diversion after

By the summer of 1942 the British government was convinced that the fear of invasion or aerial destruction of the infrastructure in London had receded sufficiently to loan the facility to the Americans. Interestingly enough, LTC Osmanski thought that Eisenhower's first stint as the ETO commander resulted in the most productive and effective relationship between the theater staff and the service sections, making it relatively easy to coordinate with the British to plan Torch and Bolero.⁸⁷ But the transfer of a significant percentage of SOS and ETOUSA staff to AFHQ and their subsequent deployment to Algiers meant that the system that had evolved in the fall of 1942 could not be sustained into 1943.⁸⁸ The staff officers left behind in ETOUSA could not fill the gap by themselves, and SOS would have to pick up some of the slack. It would take time to restore the efficiency at ETOUSA and rebuild personal relationships with the British operational planners in London.

SOS demonstrated admirable professionalism in addressing the shortcomings that had made the mounting and sustainment of Torch from the U.K. so difficult. A survey conducted by SOS showed that in the first quarter of 1943 only 46% of the ships bringing U.S. equipment to Britain met the standard of providing a manifest five days prior to docking. Almost a quarter of the ships arrived with no manifest at all; this equated to about 25 large cargo vessels that had to be unloaded, their container unpacked and sorted, and the contents labelled and redirected to the appropriate depots.⁸⁹ It was a problem that SOS, ASF, and the chief of transportation for ETOUSA demanded be fixed in the United States. April saw delivery of accurate and timely

duty hours. The only disadvantage was the distance from the ETOUSA and AFHQ staff, 90 miles away through potential bomb-damaged routes and city traffic for about half the distance.

⁸⁷ Osmanski, Part 1, 34. SOS was too new and too distracted to attempt to get involved. This transferred the responsibility for synchronizing and coordinating all technical service support to the ETOUSA staff with no preliminary shaping by the leaders at SOS. This transferred a considerable amount of work from SOS to ETOUSA and AFHQ, a problem Osmanski did not address.

⁸⁸ Ibid, 34. Ruppenthal, Vol I, 46. General Board #2, 42.

⁸⁹ General Board 128, 25.

manifests 80% of the time, and by May they had reached and then stayed at 90% or better. To fix the problem with manifests, the U.S. military had to develop a standard labeling system for all U.S. cargo, called the UGLY-ISS” coding system. Figuring out the best way to label every box shipped to the United Kingdom was part of a year-long undertaking driven by theater leaders. To ease the burden of ensuring that every box reached the right place, the command also divided Great Britain into first two, and then three, regional zones. The objective was to break up the mountain of supplies at the port in New York City into smaller, regional piles and to load each ship only with supplies for that region. This in turn would cut down on the amount of sorting and long-distance overland transportation needed to distribute the items once in the U.K. Working from accurate manifests delivered at least five days in advance, U.S. branch and service representatives coordinated with the British port authorities and transportation chiefs to plan exactly how to unload, sort by delivery location, and move supplies to the appropriate depots. The final link in the chain was to contact the depot command center when the train or convoy departed the port area, ensuring that they would be ready to receive the supplies and turn around the transportation assets as quickly as possible. SOS was refining a system in the United Kingdom that would pay dividends after the landing in France, a system that prioritized efficiencies in handling items as few times as possible while tying down transportation assets for as short a period as possible. This new process shifted the burden of pre-sorting material destined for ETOUSA to the port of New York and added the burden of publishing new procedures and retraining workers assigned to the department of the interior to the ASF. The ASF initially resisted the proposed changes for those reasons, but other theaters recognized the value of the new system and the ASF was forced to make the adjustments.⁹⁰

⁹⁰ Ruppenthal, Vol I, 145-146.

A second factor that distracted SOS from planning for Torch, in addition to the move out to Cheltenham, was the quickening pace of planning for Bolero, the operation designed to control the buildup of U.S. manpower and equipment in Great Britain prior to their employment in Europe (or Africa). There were two Bolero committees – a small one in Washington, D.C., and a much larger one in London that started work at the end of April. The British hosted the first combined coordination meeting in London on 4 May.⁹¹ MG Richard Wootten, the chief of the new Q Liaison office within the War Office's Q Branch, was the driving force behind the British Bolero committee. It was his committee that produced the series of key plans governing the reception and staging of U.S. forces and supplies across Great Britain.⁹² The first key plan, developed in a logistical vacuum and published on 31 May 1942, allocated the western British ports and surrounding areas to the Americans.⁹³ Wootten was working without much guidance in a time-constrained environment, and the physics were irrefutable. The urgent need for some centralized concept was driven by the explosion of U.S. personnel in Great Britain, rising from 35,000 men in May to 81,000 by the end of July and cresting at 228,000 in October.⁹⁴ The snap decision by the British planners made sense based on geography and the limitations of the English rail system, but, once the decision was made, planners from both sides never seemed to step back and reconsider the logic. The longer Bolero conformed to the first two key plans, the harder it would be to reorient the U.S. Army in Great Britain and thus change the scheme of maneuver for Overlord.

⁹¹ Ruppenthal, Vol I, 54, 62.

⁹² The overall concept for supporting an operation or expedition is referred to as the maintenance project, and the key plan addresses the division of the base area out to various users. *Manual of Movement*, 1933.

⁹³ Ruppenthal, Vol I, 65. General Board 128, 6-7. The second, heavily modify key plan for Bolero was published in 25 July, the third on 11 November 1942, and the fourth on 12 July 1943 (which was amended on 30 October 1943). Listed in each key plan was the desired U.S. end strength and the planning assumptions associated with ports, rail support, depot requirements, and labor distribution between the U.S. and U.K.

⁹⁴ Ruppenthal, Vol I, 75, 99.

Efforts to rebuild an effective working relationship among the British, ETOUSA, and SOS were complicated by two factors. First, SOS general staff had two non-traditional positions, complicating the effort to determine exactly who was in charge of what within the organization. In addition to the usual G-1 to G-4, SOS also included a requirements branch and a procurement branch that overlapped traditional duties performed by the G-1 and G-4.⁹⁵ What other organizations referred to as operations were performed by the technical service sections and the G-4 within SOS, and the G3 was eventually renamed the “training and security” section to avoid confusion. Second, Lee employed between three and five base-section commanders responsible for geographical sub-sections of Great Britain throughout the buildup for Bolero. This triggered an ongoing debate over the division of authority between the various base section commanders and almost a dozen special staff chiefs who were accustomed to exerting technical supervision over their associated personnel and units. The problem manifested itself in the management of hospitals, depots, transportation units, and engineering projects, to include construction methods and priorities. When base sections were first established in the summer and fall of 1942, the commanders had very little operational control over the most important technical services within their areas of responsibility, but over the coming year this shifted further and further in their favor, at the expense of the chiefs of services.⁹⁶ Lee, like Aurand, was a big believer in line or territorial command over functional authority. Ignoring Aurand’s preference for one to two very large base sections, Lee divided Great Britain, and COMZ in France, into five or six geographical entities that would fit together like puzzle pieces as the size of the rear area grew. This rapid expansion in the number of base commands in France created a

⁹⁵ Ruppenthal, Vol I, 78.

⁹⁶ Ruppenthal, Vol I, 87, 170.

requirement for someone to coordinate their interaction, a task the COMZ staff proved unable to accomplish. The informal agreements that had been worked out in the U.K. among SOS, the ETOUSA special staff, and the base sections were not universally understood or accepted in France. With the addition of SHAEF, 21st, and 12th Army Groups to the organizations COMZ needed to routinely coordinate with, expedient compromises were upset and replaced with confusion often followed by resentment.

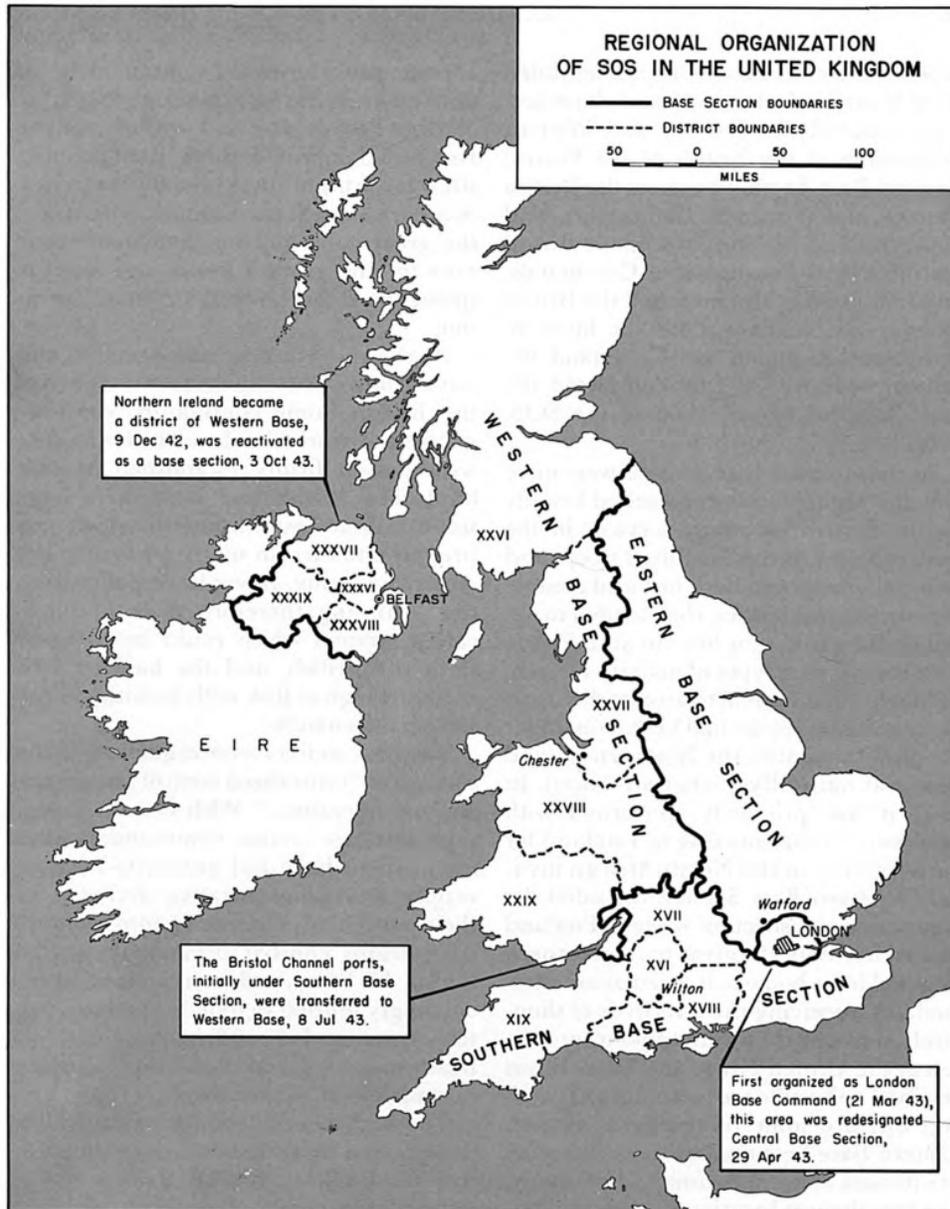


Figure 3.5: Base section and regional boundaries of SOS in the UK

The predominance of base section leaders over chiefs of services made sense in Great Britain. Supplies and troops arriving from the United States disembarked at English ports, traveled by rail to a nearby bases or depots, and remained in those general areas until it was time to deploy overseas for combat. The need to move personnel or equipment across base section boundaries was minimal. There was no demand on SOS or ETOUSA staff to supervise detailed synchronization among the various base sections and the sharing of common support from the technical services. Each base section could afford to be an independent operator that required very little help from SOS staff as long as the commander had control over everything he needed to accomplish his mission and did not need to synchronize his efforts with those of his neighbors. This was a model that would not work in France, but because it was used in the UK for over eighteen months, SOS failed to develop and practice effective ways to coordinate the activities of the base sections before Overlord. In France, especially after the breakout following Operation Cobra, tight coordination of theater assets temporarily assigned or transiting base boundaries was a critical skill. The lack of practice with shifting material across up to a half-dozen base sections, combined with the resulting need to shift coordinating authority away from the base sections to either COMZ or SHAEF, presented a significant challenge at just the wrong moment in the campaign. The solution that had made perfect sense in Great Britain during Bolero meant that COMZ never had to practice its role as a central coordinating authority, a skill they desperately needed in August and September 1944.

ETOUSA Cycles Through Commanders

Lee continued to supervise SOS under what he considered to be a sub-optimal structure until the departure of the AFHQ to North Africa, a move he used to justify a new attempt to pull

all the theater service chiefs under this direct supervision at Cheltenham. Defeated in this effort by Smith in November, Lee introduced the same proposal to LTG Frank Andrews upon the latter's arrival as the new ETOUSA commander in early February 1943. Andrews was a cavalryman who had switched to the Air Corps near the end of World War One. Between the wars he gained management experience in the War Department and commanded the GHQ Air Force, which included all air force elements in the Caribbean. Before his assignment to the ETO, Andrews commanded all U.S. Army forces assigned to the Middle East. Andrews had worked closely with both MacArthur and Marshall, had impressed both men, and understood Marshall's approach to delegation and the proper relationship between a theater and the War Department. Andrews supported Lee's request to consolidate all aspects of technical service coordination under his direct control, eliminating the need for liaison elements at ETOUSA, but in turn he demanded that SOS reestablish a permanent footprint in London. SOS referred to this as "the elimination of the special staff at ETOUSA," a decision made in March 1943.⁹⁷ The ETOUSA special staff would be replaced by the forward element of SOS's G-1, G-4, and special staff; chiefs of these sections were to rotate between Cheltenham and London periodically as their duties demanded. Lee had finally won the battle to consolidate the theater special staff under his control. It was yet to be determined if SOS could adequately handle their increased role in planning for Roundup that the change would entail.

The USFET board that studied the history of SOS in Great Britain concluded that the decision to split the headquarters between two locations was a significant mistake. The team that had prepared the document, which was doubtlessly approved for release by LTG Lee himself,

⁹⁷ USFET General Board 128, "Logistical Build-up in the British Isles, 4-5. The senior member of the writing committee was MG Royal Lord, an officer with senior responsibilities in SOS and COMZ from 1943 to 1945.

thought that the staff did not have the numbers and experience to spread themselves across two locations and to focus effectively on operations, planning, and coordination with the British. The senior author of that report, MG Lord, was fully qualified to comment on the issue, because he served as the chief of the London branch of SOS from March to August 1943. The report offered no practical solution, making no recommendation of which mission should have taken priority. Surprisingly, the report concluded this particular section by stating that the consolidation of SOS and theater special staff and Lee's assumption of the role of theater G-4 resulted in a "definite improvement in overall efficiency."⁹⁸ It seems that as first-hand witnesses Lord and his co-authors realized that SOS staff could not fill both roles adequately, but they were stuck supporting Lee's preference to do just that. One is left with the impression that Lord and SOS would have preferred to carry on in splendid isolation at Cheltenham, leaving ETOUSA and COSSAC to conduct operational planning with whatever excess capacity Lee might magnanimously provide. More distressing was the discontinuity of criticizing the decision to try split-based operations while in Great Britain without acknowledging the importance of being able to run two or three headquarters in a combat environment. Only a few sentences after stating that SOS did not have the resources to operate in two locations in Great Britain, Lord acknowledged how important it was to be able to conduct split-based operations in order to phase COMZ and base sections into France during Overlord. In one section of the report Lord criticized the decision to split SOS staff in two and questioned their ability to perform their job in such a configuration. But in later sections of the same document, in capstone U.S. command and control doctrine, and in the memoirs of most of the sustainment leaders in the theater, the ability

⁹⁸ General Board 128, 2.

to split a headquarters into two pieces and project an advanced section closer to the action was given as a fundamental requirement for any headquarters at the division level and above.

The formal relationship established in March 1943 between SOS and ETOUSA staff was modified again only a few months later, triggered by the arrival of a new commanding general. After LTG Andrews died in a plane crash in Iceland in early May, LTG Jacob Devers was appointed as his replacement. Lee saw this as another opportunity to consolidate the last of the theater special staff under his control. Lee quickly discovered that Devers was an experienced and self-confident theater commander who had strong ideas about his primary mission and how best to accomplish it.

Devers had come from a traditional field artillery background, but a series of assignments during the early years of World War Two quickly broadened his base of experience. Between 1939 and 1941, Devers worked in the Panama Canal Zone, commanded a provisional brigade in the Washington, D.C. area, and commanded the 9th Infantry Division at Fort Bragg NC, a job which included supervising a massive expansion of the base and its training facilities. In August 1941 Devers became the second chief of the Armored Force and worked with the Ordnance Department to accelerate the development of the M4 and M26 tanks. Devers learned how to operate at a bureaucratic fusion point that combined advocacy of the proper training and employment of armored forces with some measure of fiscal authority over procurement and the development of future equipment. Devers balanced the need to maintain a working relationship with his peers and with his boss while trying to develop the best armored force possible. This resulted in frequent professional, but never personal, clashes with his nominal boss, LTG Leslie McNair, over the proper role of the tank, the best composition of an armored division, and the appropriate scope of tank destroyer formations. Devers' diverse experiences and background

made him an excellent choice for theater command; his lack of combat experience was a limitation that Marshall was comfortable accepting at the time. ETOUSA was not going to play a significant role in ground combat on the continent any time soon.

It did not take Devers long to agree in principle with Lee's argument that the commander for sustainment in ETOUSA should supervise logistical planning. ETOUSA General Order 33, published on 27 May 1943, made Lee the theater G-4 in addition to his duties as SOS commander.⁹⁹ Devers stopped short of Lee's full recommendation, shelving the idea of also making him the deputy theater commander. Interviewed immediately after the war during the preparation of General Board Report Two, Devers explained that his small and relatively junior ETOUSA G-4 section was overshadowed in rank, experience, and size by SOS staff. But the SOS staff were prevented from accomplishing their full potential because they remained cut off from direct access to the ETO commander and his chief of staff. Once Lee became the theater G-4, SOS commander was free to assign the full complement of available administrative staff officers throughout Great Britain as he saw fit. Devers obviously thought that Lee would position himself and his team in the best locations to advance the theater-wide mission of ETOUSA. But both General Board Report Two and LTC Osmanski's post-war comments suggested that SOS staff struggled to adopt a theater-wide perspective at the expense of their SOS duties. SOS staff seemed distant, preoccupied with Bolero at the expense of planning Roundup, and more concerned with building a supply base in Britain than with supporting the ongoing strategic bomber offensive.¹⁰⁰ Everyone who studied command arrangements in the U.K. agreed that the fundamental problem revolved around the location, authority, and

⁹⁹ General Board Two, 65-66.

¹⁰⁰ Osmanski, Part One, 35-36. General Board Two, 67.

independence of the special staff sections, especially with planning and sustaining combat operations. Most observers seemed to want two fully-resourced special staffs – one at ETOUSA and a second at SOS. In addition to demanding twice the number of competent staff officers, this approach would also have necessitated a division of labor between the two organizations for a collection of tasks that did not lend themselves to artificial barriers.

Despite ETOUSA GO 33 and the decisions reached at the Trident Conference, very little seemed to change at SOS headquarters. In June and July work on “projects for a continental operation” (PROCO) and revisions to the troop basis consumed a lot of energy, but U.S. personnel strength remained stagnant between January and the end of May.¹⁰¹ Lee did not even address his expanded scope of responsibilities with his staff until 26 July, when he concluded that the combination of planning and executive authority into one position was a unique event in the history of the U.S. Army; finally, they had achieved the proper organization for running theater logistics.¹⁰² It took time for both the demands of operational planning, and the resources to supervise that activity to emerge.

Lee’s victory in May triggered a minor reorganization of SOS staff structure to ensure that they could fulfill these new requirements. SOS G-4 was retitled the chief of services, with the G-1 becoming the chief of administration. In theory both the G-1 and the G-4 were given supervisory authority over associated special staff sections, but the reality was that the stronger chiefs of services were not going to defer to less experienced and in some cases junior officers.¹⁰³ COL Royal Lord was appointed as the first chief of services under this new

¹⁰¹ PROCO will be explained in great detail below. “Troop basis” was a term used throughout the U.S. Army as shorthand for the very detailed list of units necessary to conduct a specific operation. Overlord had a troop basis for the first 90 days, with a supplemental troop basis out to D+270.

¹⁰² SOS C&S Notes, 26 Jul 43. RG 498, UD 578, Box 3882, ADM 455, NARA II.

¹⁰³ Most chiefs of service at ETOUSA were at least brigadier generals by the summer of 1943 and would be major generals by the following summer. Lord graduated from USMA in 1923; most of the service chiefs were

configuration, but spent most of his time in London where he could coordinate with ETOUSA, deferring operations at Cheltenham to his deputy. It quickly became obvious that Lord did not have the rank or experience to hold such a key position. As planning for Roundup began to heat up that summer, MG Robert Crawford was transferred from his position as the commander of SOS at USAFIME to become the chief of services and deputy CG of SOS in Great Britain on 24 July 1943. By this point SOS staff was dealing with the reality of executing three critical tasks, each clustered around a different location in south-central England. A small planning team was at Norfolk House working with COSSAC on Roundup planning, a second team supported the theater commander at Grosvenor Square in London, and most of the general and special staff were still located at Cheltenham. Crawford assigned Lord to the team at Norfolk House as his lead logistics planner. Crawford preferred to spend most of his time at the ETOUSA headquarters to fully support Devers and backstop Lord if needed. Lee felt that the quality of personnel, the breadth of his authority, and distribution of SOS staff reached their most effective configuration around late August as a result of these changes.¹⁰⁴ Unfortunately from Lee's perspective, these command arrangements were to change again in less than three months.

COSSAC, PROCO, and Early Roundup Sustainment Planning

It took about four months for the renewed emphasis on planning Roundup that emerged from Casablanca to bear any practical fruit. Led by LTG Fredrick E. Morgan, COSSAC held its first official combined plans meeting on 17 April 1943.¹⁰⁵ COSSAC was organized along

commissioned in the 1910s. Even Stratton, Lord's eventual replacement, was three years his senior when it came to time in service.

¹⁰⁴ Ruppenthal, Vol I, 163-166.

¹⁰⁵ General Board Report Two, 2.

traditional staff lines, with sections dedicated to operations, administration (sustainment), and intelligence and a central secretariat to catalogue and share resulting products. U.S. support for this effort was significant, but it came largely from a tightknit group from ETOUSA with assistance from the theater service chiefs. Eventually dozens of subcommittees existed, studying every conceivable technical problem. Because COSSAC did not have a projected date, location, or even size of force to drive operational planning, it was limited to studying weather, terrain, German dispositions, and the steps associated with amphibious landings and securing a lodgment. Included within this scope of work were the tasks faced while landing on a defended beach, ferrying supplies across that beach for weeks on end, and rebuilding French infrastructure smashed by combat and sabotage. All these projects, linked together, might then help ETOUSA draw up a list of required material and service troops needed to successfully pull off such an operation. A document that linked discrete tasks on the continent to the resources necessary to carry them out was exactly what ETOUSA needed to justify their requests to the War Department.

ETOUSA started this process by publishing the seven-page document “Projects for a Continental Operation” (PROCO) on 24 June 1943. It offered a set of planning assumptions about the scale and pace of initial ground combat operations in France and directed SOS and technical services to submit their requests for material and forces to support these actions. The document was important because it linked an official, best-guess relationship between sustainment tasks that would have to be performed on the continent and the materials and units necessary to execute them.¹⁰⁶ The document specifically addressed:

¹⁰⁶ General Board 128, 18.

1. How many divisions, by type, would flow to France during the first 90 days of Overlord.¹⁰⁷
2. The monthly rate of force buildup on the continent and UK over the following twelve months.
3. The number and characteristics of the main lines of communication, including the motor transport assets necessary to operate them.
4. The number of ports (major and minor) to be rehabilitated in France.
5. An estimate of the scope of airfield construction and repair, and the timeline of projected deployment for aircraft that would subsequently operate from those airfields in France.
6. Authorized levels of emergency supplies on the continent (the objective size of material reserves expressed in days of supply and units of fire).
7. Assumptions about the level of damage the Germans (and Allies) would inflict on ports, bridges, rail equipment, communication networks, and French industry.

In hindsight, Lord acknowledged that the consolidated estimate should have also projected basic civilian needs in liberated territory and general suggestions as to when and at what rate supplies would flow from the United States directly to France rather than through Great Britain.¹⁰⁸ Regardless, PROCO was a powerful tool to ground the next round of sustainment planning.

This centrally endorsed document was powerful because it enabled each chief of service to create a supporting plan with a list of special projects or activities that their organization would have to accomplish to achieve the overall scheme of support. These “PROCO Projects” were fleshed out between July and September 1943, each job receiving a projected allotment of technical labor, material, estimated completion time, and relative prioritization. The ETOUSA

¹⁰⁷ ETOUSA used numbers provided by OPD, the Imperial General Staff, and COSSAC, so they could not be called into question, despite their tentative nature. These figures were primarily governed by the number of amphibious assault craft and cargo ships and by the earliest guesses about daily combat tonnage requirements versus discharge projections across beaches, minor ports, and one to two major ports.

¹⁰⁸ General Board 128, 19.

Quartermaster submitted almost 100 projects alone, joined by Signal, Ordnance, Medical, Transportation, Engineer, and Chemical Warfare inputs that pushed the ETOUSA total to around a thousand individual requests.¹⁰⁹ The paperwork that was generated and the staff energy expended on this effort were significant. The QM files from ETOUSA contain boxes of messages traded back and forth between London and the Port of New York, each tracking the progress of filling the order.¹¹⁰

Defining the scope of these various projects was necessary to justify the most recent troop basis submitted to the War Department. If the command could figure every component task and item of supply associated with Roundup, they could figure out how many service troops were necessary to move and use them. The special staff at SOS acknowledged the most significant shortcoming of the process – that there was no collaborative planning with the units projected to do the fighting and sustaining on the continent. In September 1943 COSSAC lacked the technical and tactical depth to enable it to dig into the details with each service, the U.S. Army ground commands were just being stood up, the Navy and AAF support to Roundup was still very vague, and the various base sections that would deploy to France and direct activity in the communications zone had not yet been created. This led to no end of trouble in September 1943 and again in the spring of 1944 as first the War Department and then SHAEF questioned all the planning assumptions used by ETOUSA, but there was practically no solution. Frequent changes to the scheme of maneuver, air plan, and planned projects resulted in a series of

¹⁰⁹ PROCO Files, Office of the Quartermaster, ETOUSA. RG 498, UD 1107, Box 5299-5301. Individual projects included projections of rations, replacement clothing, office furniture, dozens of construction plans, packing material, and items to protect facilities and supplies erected in field conditions.

¹¹⁰ The variety of items is staggering, most of the documents are classified secret, and the purpose of the items quickly disappeared into the bureaucratic method used to handle the requests. It doubtlessly required a small army of experts to keep the process functioning, and there was no easy way to sort requirements between essential items and those that were just nice to have. SOS and ETOUSA screened each project but did not try to consolidate like items or prioritize projects against one another.

refinements to the initial estimates well into the summer of 1944.¹¹¹ The process was far from perfect, but it had energized the ASF in time to make the adjustments needed to provide a large majority of the equipment and material needed in France.

The SOS staff had full access to the various technical service experts, both at Cheltenham and in London, as they worked on this massive endeavor. The team was producing very detailed scopes of work for hundreds of projects. Once collected at the theater level, these technical reports provided a list of material and equipment ETOUSA needed for Overlord the following summer. The process illustrated the difference between logistical and tactical planning. The interrelated, technical, and detailed work done by the logisticians had to be accomplished almost a year in advance, when no concrete operational plans were available to use for reference or justification. The U.S. industrial base needed these requests in order to modify production schedules, so that supplies and equipment would be finished in time to ship them to Great Britain or directly to France for consumption. It was impressive that SOS provided such a comprehensive resourcing request nine months prior to the invasion, but this did not mean that the ETOUSA wish list directly corresponded to the global priorities established by the War Department or that the industrial base could produce everything on the necessary schedule.

Maintaining visibility in filling these requests was hard work that tied down a significant portion of the special staff. As services began to realize they were not going to meet important goals, the shortfalls they projected triggered a search for alternative solutions. Across the board it had become obvious that the Allies were facing major shortfalls against PROCO requirements by March 1944. This drove ETOUSA to enact a compromise on 3 April. The ETOUSA G-4

¹¹¹ Memo from Chief of Supply Branch ETOUSA QM to Chief P&T Division, 14 Jul 44. This letter confirmed that all requirements for D to D+90 had been validated on 18 March 1944. It also addressed changes to the projections for D+90 to D+240. In general, the changes were minor (an increase in no more than a third of the original requests) beyond a few exceptions; two exceptions were doubled requests for office equipment and vomit bags.

wanted to pool all the material on hand for PROCO and then issue the equipment as prioritized by General Lee.¹¹² One major disadvantage of the initial approach to PROCO was that the requests had been submitted exclusively for SOS units and projects, and the vast majority of the material was reserved for their use. Because FUSAG and USSTAF had submitted their requests months after SOS, their requisitions were near the bottom of the prioritized list, even though they would need the items months before COMZ. If Lee approved Stratton's recommendation, this material would be issued while still in the U.K., with the first wave of invading and supporting forces moved to the front of the line. Furthermore, units would be able to confirm the exact contents of mission packages and have time to familiarize themselves with specialized tools. Stratton's solution presented the risk that the cupboard would be empty by the time SOS arrived to start its work, but it also bought another two months to receive replacement supplies from new production. The recommendation was approved by General Lee, and that summer and fall ETOUSA received unit support requests and allocated material and transportation assets based on the results of their recurring prioritization board.¹¹³

In hindsight ETOUSA should probably have consolidated all the various project material requests into one massive supply list to support the invasion. This would have required a lot of work on the front end, but it would have simplified reconciliation of partial shipments against the overall theater requirements. This alternative method would have consumed fewer staff personnel at ETOUSA and provided a better overall feel for how well production was meeting theater requirements on a monthly basis.¹¹⁴ It probably would not have accelerated the delivery

¹¹² COL Donald R. Neil, "Issuance of PROCO Equipment" 3 Apr 44. Memo from ETOUSA G-4 to Chief Quartermaster, FUSAG, and USSTAF. RG 498, UD 1107, Box 5301, NARA II.

¹¹³ General Board 128, 20.

¹¹⁴ As executed, Lee would have to talk about the percentage fill for each project across over a thousand projects. None of this data would allow the command to project which projects it could and could not support. Knowing that project GS 20 was only 35% filled in April 1944 was not helpful, particularly if material that could have taken the

of critical equipment, but ETOUSA would have realized that they had an unsolvable resourcing issue much sooner, allowing the command to look for other solutions to accomplish the same purpose.

Most crucially, as COSSAC formed and as the PROCO initiative emerged, ETOUSA's focus changed accordingly. Casablanca led to the formation of COSSAC. Trident led to a renewed commitment to offensive actions against Germany from the U.K., which started the ball rolling with PROCO and the troop basis it required. A new emphasis on operational planning called into question the organization, location, and priorities at ETOUSA and SOS. In June, U.S. troop numbers in the U.K. began to climb for the first time in six months. After almost a year of settling into a comfortable routine, the writing was on the wall that major change was on its way.

Reorganizing ETOUSA after the Quadrant Conference

It was during the late summer of 1943 that the primary mission of ETOUSA began to shift away from Bolero and tilt towards a greatly expanded strategic bomber offensive and intensified planning for the invasion of France. Obviously, this change was driven by CCS decisions made at Trident in May and Quadrant in August, which in turn drove renewed interest in the tentative troop basis for Roundup. As a result of renewed planning for offensive operations in Europe, the U.S. War Department realized that they had two related problems on their hands by mid-August. First, they had promised to provide forces to the various theaters that were just not available. Second, Roundup suddenly was high on the priority list and would consume a lot of resources – troops and equipment that would require many ships, and therefore

project to 90% was available but earmarked against a lower-priority project. Knowing that the theater only had 10% of its total heavy truck requirement was much more useful information.

much time, to move across the Atlantic. If the U.S. was going to assemble 1.4 million men in the U.K. by 1 May 1944, it needed to begin deploying forces quickly. The natural reaction was to push back on the ETOUSA troop basis offered at Quadrant, especially for those forces in high demand among four theaters, which tended to include many of the service units. ETOUSA developed its estimates that summer based on PROCO, historical data, and planning factors established within each technical service, but the forecasts were not justified by an overarching logistical concept of support linked to Roundup or Overlord. The War Department G-4 declared these estimates insufficient, refusing to validate support requests without “an administrative plan to back up SOS troop requirements.”¹¹⁵ By mid-August 1943 ETOUSA could make no further progress fulfilling one of their most essential tasks.

There is reason to believe Devers knew that planning logistical support at the operational level was not a strength of the ETOUSA staff before he departed Washington to assume command in London. Upon his arrival in London Devers decided to see if Lee and SOS could fill that gap.¹¹⁶ Devers’ initial impressions of his own staff were not especially favorable. He conducted his first staff meeting on 11 May and the roster of department heads was uninspiring; doubtlessly honorable, professional, and hard-working officers, they did not seem to have the spark necessary to generate confidence for promotion or assignment to key positions.¹¹⁷ On 18 May Devers wrote Marshall asking that Bradley be transferred from North Africa to give V

¹¹⁵ Letter, COL Edwards (OPD) to MG Edwards (ETOUSA), 15 Aug 43. RG 498, UD 578, Box 3854, ADM 345 – Troop Basis.

¹¹⁶ Devers Diary, entries for 7 to 9 May 1943. Devers Papers, AHEC. Devers met with Somervell and Moses on 8 May, the day before he started his flight to London. Moses Diary, entries in August and September 1943. Moses Papers, AHEC. Writing in August, Moses claims that Devers had warned him back in May that he would become the ETOUSA G-4 as soon as practical.

¹¹⁷ Devers diary entry for 11 May lists the attendees, to include the key staff officers from ETOUSA: chief of staff: MG Edwards, G-1: COL Edwards, G-2: COL Black, G-3: COL Layman, G-4: COL Longino, AG: COL Pulsifer, G-5: COL Morrill. Devers does not question the capabilities of these men in his diary, but none of these individuals was destined for promotion or transfer to key positions in SOS, COSSAC, or SHAEF in the coming months, and Devers moved quickly to upgrade his G-3 and G-4 that summer.

Corps a combat veteran to help with planning, noting that Morgan's major generals were paired with American planners ranking from captain to colonel.¹¹⁸ Devers asked that an army commander with a skeleton staff be assigned to ETOUSA sometime in July.¹¹⁹ Writing to Eisenhower in December 1943, Devers called his chief planner Barker "weak." When he assumed command, Devers said, he had "found a weak staff organization and a dissatisfied command due to the fact that there seemed no objective outlined."¹²⁰ Obviously, Devers had little confidence that ETOUSA could fulfill its end of operational planning for Roundup without outside assistance.

By August the major subordinate commands of the ETO consisted of the Eighth Air Force, V Corps with three infantry divisions and a special engineer brigade, and SOS.¹²¹ As the command became more involved with pre-invasion training and planning, it became apparent that the staff sections were unbalanced, with too many service and air officers and not enough ground combat branch representatives.¹²² Developments immediately after Quadrant seemed to convince Devers that he needed to accelerate the sustainment planning that was already happening by bringing in a few more trusted associates to man key administrative posts. U.S. staff manpower already available in the U.K. did not seem capable of building a joint theater-level concept of support. ETOUSA suddenly needed to expand vastly its operational planning capacity at the same time Devers was beginning to realize that he did not have enough sufficiently capable staff officers in his own headquarters to do so. He also seemed to concede

¹¹⁸ Devers to Marshall, 18 May 43, box 11, DP, in Wheeler, 231.

¹¹⁹ Devers to Marshall, 19 May 43, box 11, DP, in Wheeler, 231.

¹²⁰ Devers to Eisenhower, 27 Dec 43, box 12, DP in James Scott Wheeler, *Jacob L. Devers: A General's Life* (Lexington: University Press of Kentucky, 2015), 242. Devers, "Memorandum for COL W.A. Ganoe", 1 Jan 44, box 12, DP in Wheeler, 243.

¹²¹ General Board Two, 39.

¹²² General Board Two, 65.

that Lee and his SOS were not capable of pulling together an operational logistics plan on their own, something Devers realized during the preparation for Quebec.

The short-term solution was to pull in external talent; Crawford arrived in late July, transferred from USAFIME, and Moses was informed by General Marshall in early August that he was to report to ETOUSA within a month. In addition to adding a few trusted officers to the team, Devers also made it clear that SOS had to do more to support operational planning. During his first official visit to Cheltenham on 23 August, Devers directed Lee to shift a significant portion of his headquarters back to London, a task which was accomplished over the next two weeks.¹²³ Lee also began spending more time at ETOUSA and COSSAC, partly to cover for COL Albrecht (the primary logistics planner attached to COSSAC from SOS) who was in the United States working with the Quadrant team, but also because of the increased emphasis on Overlord planning in general.¹²⁴

While Devers was gearing up ETOUSA to address the implications and shortcomings identified at Quadrant, he also had his key planner visit Washington, D.C. after the conference to feel out the War Department and, more particularly, General Marshall. It seems that during his preparation for the conference Devers had decided that the next logical step was to establish a U.S. army group headquarters in the U.K. This was one of the issues MG Barker was directed to explore at Quadrant and during his follow up visit to the capital afterwards. Writing to his boss on 30 August, Barker reported that Marshall and the War Department were not ready to commit to the idea of an army group staff yet but that Marshall was ready to name Bradley as the 1st

¹²³ SOS C&S notes, 23 and 30 Aug 43. RG 598, UD 578, Box 3882, ADM 455. By October SOS had half of its officers permanently stationed in London.

¹²⁴ Ibid, 30 Aug 43.

Army commander.¹²⁵ Barker went on to recommend that Devers appoint Moses as an army group G-4 and acting chief of staff until they could convince Marshall to authorize and resource the new command. In the interim, Moses could flesh out the U.S. team working with Morgan at COSSAC. Barker finished his letter by reporting that he intended to remain in Washington in hope of ensuring the draft troop basis submitted before Quadrant made it smoothly through the War Department staff.

About a week later Barker gave an update, sharing some breaking news and offering a fascinating recommendation. “Newspapers have just announced...that SAC is to be GEN Marshall and suggests that GEN Eisenhower may be Chief of Staff.”¹²⁶ Barker told Devers that the JCS had asked him for his opinion about how to address the issue of a SAC and a ground force commander with the British. Both parties agreed that the SAC was a foregone conclusion; the position would be filled by an American with no pushback from the British. Barker felt confident the British would want to establish an overall ground commander, and that they would recommend Montgomery or Alexander for the job. Barker believed that the JCS should counter by insisting that the position go to an American, since the U.S. would eventually provide most of the strength on the continent. After establishing the idea that the overall ground commander should be an American, the chiefs could win their argument and look very reasonable by offering an initial compromise -- the British would command on the ground until it made sense to shift to an American. The JCS would get what they wanted without offending British sensibilities. The British promptly followed Barker’s script, proposing in September that a British army command the initial assault and then an army group direct the ground campaign until the Americans

¹²⁵ Letter, Barker to Devers, 30 Aug 43. RG 498, UD 578, Box 3854, ADM 345. Barker to Devers, 24 Aug 43, box 12, DP, in Wheeler, 233.

¹²⁶ Letter, Barker to Devers, 7 Sep 43. Ibid. It is unclear if Barker meant Eisenhower would serve as chief of staff for Marshall or would replace Marshall in D.C.

secured the Brest peninsula or a U.S. army group was active on the continent.¹²⁷ The obvious compromise was two national armies commanded by the 21st AG until a second army group headquarters became necessary.

Early in September the first concrete signs of major change at ETOUSA began to be noticed, marked by the transfer of BG Moses into the command. The first day after his arrival in London, Moses shared a short memo with his new boss, the ETOUSA chief of staff, MG Edwards, pointing out the pressing need for an administrative support plan for Overlord. He was just repeating what Devers and his trusted agents already knew, but Moses wanted to ensure that the entire U.S. sustainment establishment in the U.K. was notified, in writing, of just how important Washington considered this task. Furthermore, Moses advised Edwards that SOS was the wrong organization to create such a plan – only ETOUSA was a neutral party that could credibly prioritize between SOS, field force, and Army Air Force while retaining a reputation for impartiality.¹²⁸ Obviously it was a document that Moses had written before his arrival and one that represented his personal opinions about the flaws of relying on a subordinate command within a theater to apply constraints on its peers, but he also seemed to be aligned with Devers' thinking on the subject by early September.

Behind the scenes, Devers took more decisive steps to extract from Marshall exactly what he wanted done with the command structure in the U.K. Devers knew he needed to resource an operational command to bring a sense of drive to U.S. planning for Overlord, but he did not want to guess incorrectly and put his strongest officers in an organization that was eventually destined for irrelevance. First, he pressed Barker to force the issue immediately after Quebec; when this

¹²⁷ Wheeler, 232.

¹²⁸ Memo, Moses to Edwards, 8 Sep 43. Moses Papers, AHEC.

did not work, Devers wrote Marshall himself on 13 September to exact concrete guidance. Marshall rejected Devers' first proposal, which was to reorganize ETOUSA as an operational headquarters that would move over to France as soon as there was sufficient room, with Lee serving as both the commander of COMZ and as the theater G-4 and deputy chief of staff for sustainment.¹²⁹ In his first response sent on 18 September 1943, Marshall explained that he wanted both an army group headquarters and a separate U.S. Army theater headquarters; the army group would eventually take its operational direction from the Supreme Allied Commander. As we will see below, this message was enough to trigger the movement of Moses to FUSAG and the elevation of Crawford to ETOUSA on 19 September. But on 24 September Marshall sent a long and detailed cable to Devers that left little room for interpretation and solidified the ETOUSA commander's thoughts on the best way to generate an operational concept of support.¹³⁰

It is helpful to remember that when Marshall wrote his detailed instructions on how he wanted Devers to set up an array of headquarters in the U.K., he did so under the impression that he himself would serve as the Supreme Allied Commander for Overlord. He might also act as the theater commander for American forces or else appoint some other officer to this position. It is also logical that Devers would react to these instructions in order to preserve a meaningful position for himself in the coming campaign, either by shoring up the capabilities of ETOUSA or by creating a new organization where he would fit well.

On 24 September Marshall's letter was dispatched – three pages of dense and well-organized text, tackling the joint-combined theater structure, composition of the Allied staff, and

¹²⁹ General Board Two, 46.

¹³⁰ Cable, headquarters, ETOUSA, W-4763, 21 Sept. 1943 and Letter, Marshall to Devers, 24 September 1943, Marshall to Devers (personal) from General Board 2, 46-47. Two additional cables are referenced in these two documents: Devers to Marshall on 13 September, and Marshall to Devers, 18 September.

then the status of the European Theater of Operations. The ideas captured in the first two major sections indicated that Marshall had embraced the importance of a joint and combined command structure and associated staff for each theater. The last section, covering the senior U.S. Army headquarters, showed that his ideas about logistics and about the relationship between a national and combined operational headquarters were still rather vague. Marshall envisioned a relatively conventional joint command structure with two exceptions. First, the supreme commander would directly supervise two national army groups; Marshall told Devers that it was “not advisable to introduce the idea of an Allied Army (ground force) commander at this time.”¹³¹ Second, Marshall wanted to split the air component of the expeditionary air arm into tactical and strategic commands, hoping to appoint an American commander to the strategic portion since Leigh-Mallory had already been named for the tactical organization. The idea that the British would surrender some control over their strategic bomber fleet to an American air general in support of tactical objectives seems a bit naïve in hindsight. But the concept Marshall proposed made it clear that he and Eisenhower were on the same page when it came to insisting that the heavy bombers directly support the campaign plan in France.

Marshall addressed the composition of the Allied staff assigned to the supreme commander, and it was obvious that he appreciated what Eisenhower had accomplished with AFHQ. Assuming the SAC was an American, Marshall was comfortable keeping LTG Morgan as the chief of staff and accepting a British G-4 for the early stages of Overlord. Once convoys were sailing directly from the United States to France, he would move up the American deputy into the primary slot at G-4. Marshall did not address the division of duties between the Allied G-4 and the U.S. SOS, but he clearly wanted one on his general staff. Marshall agreed with

¹³¹ Letter, Marshall to Devers, 24 Sep 43, 1.

Devers' comments from 21 September that the Allied joint staff needed a small naval and air force component but that the naval presence at headquarters could be scaled back significantly once the ground forces were secure in their lodgment on the continent.

After so clearly demonstrating the maturity of his views on the joint and combined nature of modern theater warfare, Marshall seemed incapable of appreciating the implications for a national general headquarters. Marshall wanted a new U.S. general headquarters to direct operations in France, superior to the numbered air forces and FUSAG, but distinct from ETOUSA. This GHQ would receive operational guidance from the SAC but have access to the JCS for routine administrative duties. Marshall agreed with Devers that ETOUSA needed to divest itself of some major responsibilities once FUSAG was established, and it would be expected eventually to close out its mission in the U.K and merge with the GHQ in France.¹³² The exact phrasing of Marshall's comments about the future of ETOUSA implied that he saw the organization as a means to appeal directly to the U.S. Joint Chiefs of Staff and War Department if things changed and a British officer received appointment as supreme commander. If the SAC was American, ETOUSA would surrender the authority to engage directly with the War Department and JCS. Marshall was obviously not interested in a subordinate commander who could appeal his decisions to the War Department, the ASF, or the AAF. A second puzzling directive issued by Marshall was that he wanted all field force commanders "relieved of as many administrative responsibilities as possible."¹³³ Field force commanders included the SAC, any U.S. army groups, and numbered air forces, and administration included the duties associated with the G-4 and G-1. Despite pointing out that the Allied staff needed a G-4 and considering

¹³² Ibid, 3. Marshall is agreeing with a comment made by Devers in his 21 September cable.

¹³³ Ibid, 2.

when to rotate from a British to an American chief logistician, Marshall still imagined that a joint theater commander might be protected from having to worry too much about sustainment.

Remaining consistent with guidance issued on 18 September, Marshall wanted a separate army and army group established quickly under the temporary command of General Bradley. These organizations should physically and mentally distance themselves from ETOUSA and London; in the field they would answer to a new operational U.S. GHQ and the SAC, not ETOUSA. Marshall made it clear that he had not decided who would be the final army group commander, and he made it clear he was interested in Devers' feedback about the reorganization of U.S. headquarters. Marshall closed the letter with two imperatives: give Morgan your complete support in the difficult task of forming a combined staff, and fill American staff positions with "strong, able men."¹³⁴ To make this happen, Marshall promised his full support; he would send some of his best officers from the War Department to meet these requirements. Devers had obviously made it clear that he did not have the talent on hand in the U.K. to meet his expanding duties.

While engaged in exchanging letters with General Marshall, Devers was forced to leave the newly arrived Moses unassigned to any specific duty for a few weeks. But on 19 September, having received confirmation that Marshall supported forming a new army group, Devers began to share some of his thoughts about future options with Moses. It seems that a wide range of options were on the table, with Lee, Lutes, Crawford, and Moses considered as the chiefs of logistics at COSSAC, ETOUSA, and a new army group headquarters.¹³⁵ One possibility was that Crawford would replace Lee at SOS, with Lee shifting to COSSAC or back to ASF

¹³⁴ Ibid, 5.

¹³⁵ Moses diary, 19 and 20 Sep 43. Moses Papers, AHEC.

headquarters. But late on 20 September Devers decided that his first priority was to send a strong G-4 to the new army group staff; Moses was told he would work out of the ETOUSA G-4 office until the new command was announced. Moses provides different dates in different documents as to when he was notified of this development, but he is consistent in claiming that he and Crawford were briefed together. Crawford was to be transferred from SOS to ETOUSA and Moses would help stand up FUSAG.¹³⁶ Devers made this change official on 5 October in a 30-minute meeting with Lee followed by 15 minutes with Crawford and Moses together. In his diary Devers recorded that Lee had argued that the CG of SOS should remain dually responsible as the theater G-4 as established back in July. Devers countered by saying he had given that solution an honest try but now thought it “necessary to have a disinterested party to weigh the demands of the troops as well as SOS and AF.”¹³⁷ Crawford and Moses were told to report to their new positions and to see Devers again on 7 October to confirm the move and raise any initial concerns. The experiment with delegating all aspects of logistics to SOS was over.

Devers decided to use outsiders to fill what he considered the key operational logistics positions in the ETO; obviously Moses and Crawford made stronger positive impressions than the other flag officers within SOS. Moses would stay as the G-4 for 1st Army and FUSAG for the duration of the war, attending his first FUSAG staff meeting with General Bradley on 9 October. Crawford was officially assigned to ETOUSA for about two months before being transferred to COSSAC. In reality, however, he spent most of his time at Norfolk House once assigned to Devers’ command. Royal Lord backfilled Crawford as the chief of services and deputy commander for SOS. Devers had moved Crawford to ETOUSA to free him from any

¹³⁶ “Organization and Command in the ETO,” paper sent from Moses to Coakley, undated, Section Two, 2. Moses Papers, AHEC.

¹³⁷ Devers diary, 5 Oct 43. Devers Papers, AHEC.

obligations to Lee and SOS, to help finalize a draft troop list for submission to the War Department on 1 November, and to provide an authorized billet facilitating interaction with COSSAC until more combined slots were established. Devers was under no illusions about the future importance of ETOUSA in planning or executing Overlord and no longer trusted Lee to drive operational planning for logistical support on the continent.

Writing after the war, Devers claimed the move had been motivated by the need to establish an arbiter among Bradley, the numbered Air Forces, SOS, and the ETOUSA chief of staff, who was being pulled into too many arguments involving billeting and supply issues. As we have seen, however, this was a cover story designed to cushion the blow to Lee's ego.¹³⁸ Crawford left ETOUSA after less than two months in the job, moving to the COSSAC planning team on 1 December. From there he would transition into and remain the SHAEF G-4 for the duration of the war. When Crawford left for COSSAC, Devers decided to reinstate Lee as the theater G-4.

Ruppenthal attributed this shuffling of positions to an emerging clash of personality between Crawford and Lee; Moses believed Devers was preparing ETOUSA for the day when it would have to make tough choices in combat. If he had been able to answer with complete honesty, Devers probably would have said he was putting his strongest logisticians in the two commands prioritized by Marshall in his 24 September letter. After the completion of the draft troop basis in early November, the balance of power rapidly shifted to COSSAC and FUSAG. These were the organizations that would write the concept of support for Overlord, complete preparations for the invasion, and direct service troops in the coming campaign. As outlined by Marshall, ETOUSA was earmarked to shrink and then merge with a new general headquarters on

¹³⁸ General Board Two, 69.

the continent. The U.S. Army needed strong logisticians in Great Britain, but by the winter of 1943 Marshall and Devers believed that the important work would occur at the combined theater and army group headquarters, not at ETOUSA.

The First U.S. Army Group (FUSAG) was activated on 19 October 1943 and was sufficiently manned and oriented to begin detailed planning for Overlord by 29 November.¹³⁹ As this organization formed, Lee had offered to fill out the logistics planning team with a deputy chief of staff and deputy service section chiefs from SOS, but Bradley insisted on retaining control of his own administrative team.¹⁴⁰ When Devers explained to Marshall how he would stand up and support the FUSAG staff he said that he would attach a small liaison team from Lee's SOS to coordinate logistical planning, but this would not bear fruit until early February 1944.¹⁴¹ Perhaps for the long-term good of ETOUSA Devers or Lee should have pushed the issue a bit harder, but Bradley got what he wanted. FUSAG divided responsibility for developing the logistics plan for Overlord between themselves and the 1st Army staff. The 1st Army would handle all planning for Neptune, or the landing and expansion of the lodgment through about D+14 to D+21; FUSAG would cover the period from D+22 to D+90.

Just as the creation of FUSAG removed a large burden from ETOUSA and SOS for developing the ground scheme of maneuver and support plan, a second new headquarters was activated to assume greater responsibility for air planning. The U.S. Strategic Air Forces (USSTAF) was activated on 1 January 1944 with LTG Carl Spaatz transferred from the Mediterranean to be its commander. This organization was created to coordinate the efforts of

¹³⁹ Ibid, 47.

¹⁴⁰ Ibid, 69.

¹⁴¹ Devers to Marshall, 21 Sep 43, Moses Papers, AHEC, in Wheeler, 234. Devers promised to have the new headquarters established by 1 October, but with no special staff sections, and thus the need for support from SOS and theater chiefs of services.

the 8th and 15th Air Forces in the bombing campaign against Germany and provide administrative and logistical support to 9th Air Force. USSTAF provided a team of experienced veterans who could help plan and execute shaping operations for Overlord and provide technical expertise to COSSAC and the Allied Expeditionary Air Force commander while allowing the 8th Air Force to concentrate on ongoing operations.

These two new major organizations reduced the planning burden on ETOUSA significantly. The reputation and authority enjoyed by Bradley and Spaatz ensured that Lee would take any requests or complaints about preferential treatment for SOS seriously. Following up on the agreement reached between Marshall and Devers in late September, ETOUSA had outsourced two of its critical operational missions. The residual ETOUSA staff no longer had the power necessary to effectively manage its three subordinate commands. Spaatz was comfortable running the strategic air war in cooperation with the British Bomber Command. Bradley had his own team imbedded at COSSAC and 21st Army Group to plan and prepare for Overlord. Lee was approaching eighteen months in his position as SOS commander, which afforded him a wealth of experience managing logistics and force deployment into and out of Great Britain. Devers was a lame duck – he would soon be overshadowed by Eisenhower and SHAEF. Eisenhower confirmed as much when he suggested that Marshall transfer Devers to NATOUSA, as “it would appear that he will be superfluous in [the] U.K.”¹⁴² Devers and Marshall had foreseen that ETOUSA would be displaced by a combination of a new joint-combined theater headquarters and a U.S. army group. Rather than fight this development, Devers had confirmed what his boss was thinking and then acted to transform ETOUSA to enable that vision. It is not unrealistic to assume that Devers hoped he was helping to create a

¹⁴² Eisenhower to Marshall, 21 Dec 43, Eisenhower Papers, vol. 3, message 1440, in Wheeler, 241.

new organization that he would command in combat, or a joint operational staff where he could serve in a key position. In December he would ask both Marshall and Eisenhower for command of FUSAG.¹⁴³ Once Devers realized that Marshall saw ETOUSA as irrelevant to the fight in France, he threw all his energy into resourcing its replacements.

One side effect of this transformation was that, from September until the end of November, there was a loss of momentum and direction in the sustainment plan for Overlord. It took until the end of November for FUSAG to find its rhythm, and COSSAC required an infusion of combat veterans in order to evolve into an effective operational headquarters. It is conceivable that if Lee had made operational planning his number one priority, SOS and technical services might have made significant progress in framing a support plan for Overlord between early September and early February. In addition to having an additional five months to write an array of plans, SOS would have been directly involved in the process and thus gotten to know their counterparts at COSSAC and 21st AG. As it was, they did not join the process until directed to do so in early February, and then in such a compartmentalized manner that the main SOS staff at Cheltenham had almost no familiarity with the plan. SHAEF was surprised at how little planning had been done before February beyond the work completed by FUSAG, which was largely focused on the first forty days of operations on the continent.

¹⁴³ Devers to Marshall, 13 Dec 43, box 11, DP, in Wheeler, 237. Marshall passed along to Eisenhower his recommendation of Devers or McNair to command FUSAG on 21 Dec. On 27 December Devers wrote Eisenhower directly stating: "I am delighted to serve under you and believe I can be of most use as the commander of the First Army Group." See Wheeler, 242.

The Return of Eisenhower

Eisenhower arrived in Great Britain on 16 January 1944, and the following day he published guidance aimed at clarifying the mission of ETOUSA and its relationship with SHAEF. Eisenhower finalized the process started by Devers and killed one unnecessary major headquarters in the U.K. Acting in his role as the ETOUSA commander, Eisenhower issued a general order on 17 January that officially merged the ETO and SOS staffs into one organization, with Smith as the chief of staff, and Lee the deputy theater commander.¹⁴⁴ This setup was almost identical to how Eisenhower had structured NATOUSA and the preferred solution from the perspective of Lee and Somervell. Lord, acting as the deputy chief of staff for ETOUSA, served as the major conduit between Smith and Eisenhower and the ETOUSA/SOS staff. The merger produced a surplus of personnel; most of the ETOUSA G-2 and G-3 sections and the commander's personal staff migrated to COSSAC/SHAEF while the G-1, G-4, and service section representatives stayed put.

¹⁴⁴ General Board Two, 50. Appendix 24 contains the majority of the General Order.

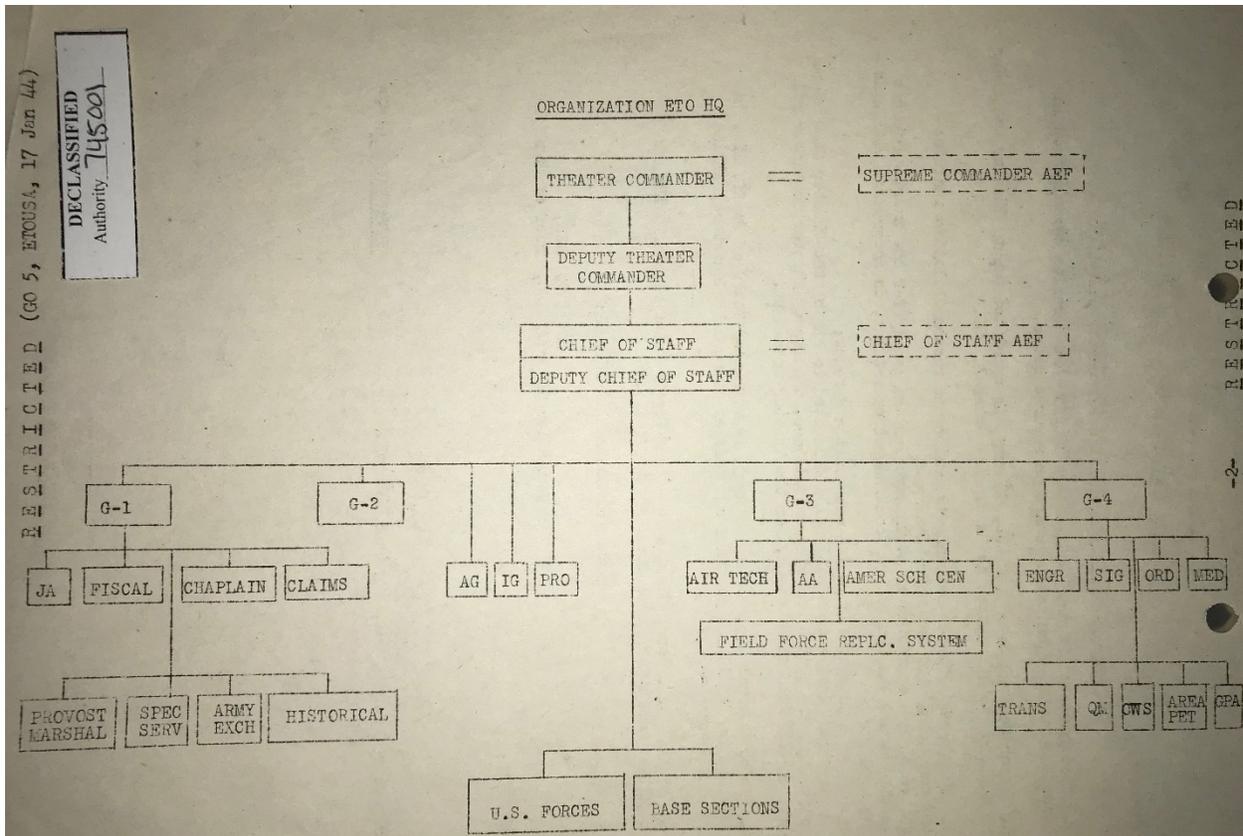


Figure 3.6: ETOUSA on 17 Jan 44

The authors of General Board Two argued that this placed too great a burden on what had been SOS staff; Eisenhower obviously disagreed, at least when he first made the decision.¹⁴⁵ It is worth noting that GO 5 made no mention of any theater planning responsibilities for ETOUSA; subsequent developments demonstrated that Eisenhower expected the SHAEF and FUSAG staffs to carry the majority of that burden, assisted by technical experts from the chiefs of services and SOS.

Nothing changed with the relationship and location of the chiefs of service relative to the old SOS staff except perhaps an acceleration of the shift in priorities to operational planning centered on London and Bristol. The technical services and the newly consolidated ETOUSA

¹⁴⁵ Ibid, 50.

staff continued to maintain a presence in both Cheltenham and London. A few weeks after the publication of GO 5 Lee activated both an ADSEC and FECZ to consolidate his operational planning teams working with 1st Army and 21st AG. Meanwhile, what had been SOS operating headquarters at Cheltenham and the five base sections remained focused on absorbing the wave of men and material pouring into the country, supporting exercises and rehearsals, figuring out the mounting plan for Overlord, and working out how to consolidate the U.S. footprint in the U.K. after its launch.¹⁴⁶

This concentration on continued operations in Britain conformed to the mission SHAEF had assigned to what would become COMZ. Eisenhower understood that SHAEF and ETOUSA had to manage two very distinct logistical missions. In Great Britain, ETOUSA was in charge of detailed coordination with the zone of the interior, both in the United States and the United Kingdom; this was a critical and full-time mission that had consumed SOS for the last two years.¹⁴⁷ But once the Allies had landed in France, SHAEF added a second critical sustainment mission centered on the repair and use of the transportation infrastructure of western France. The primary mission of SOS prior to the landing in France was to “mount the invasion, funnel supplies from the UK and the USA to the front, and prepare to jump to the continent and establish a COMZ.”¹⁴⁸ Wearing their ETO hats, this same staff would supervise FUSAG and USSTAF as they planned, prepared, and conducted combat operations from the British Isles, at least in theory. But ETOUSA was not manned to perform this function, nor did they have the clout to do so. Only SHAEF could realistically fulfill this function, and, they eventually tried to

¹⁴⁶ U.S. troop strength in the U.K. exploded between August 1943 and June 1944, ranging between 100,000 to 200,000 men a month. Cargo delivery peaked from November 1943 to April 1944. See Ruppenthal, Vol. I, 232 and ETOUSA monthly strength reports, RG 498, UD 578.

¹⁴⁷ General Board Two, 9-10.

¹⁴⁸ General Board Two, 52. ETOUSA General Order 5, 17 Jan 44. Summary of changes included as appendix 24 of General Board Report Two.

delegate most of this responsibility to Montgomery and the 21st Army Group. ETOUSA could virtually ignore planning operational logistics because the system that had evolved throughout the first half of 1944 divided responsibility for the mission across three or four headquarters broken up by different time horizons.¹⁴⁹ COMZ would not assume any formal responsibilities until the last stage of this process, reinforcing the idea that it could remain a secondary priority until after the troop and supply flow into France was running smoothly.

The U.S. 1st Army, assisted by a planning element from the advanced section (ADSEC) of what would become COMZ, was responsible for planning and controlling logistics from the landing up to the establishment of an army rear boundary, an event projected to occur between D+14 and D+21. In the earliest versions of the sustainment plan, COMZ would be activated as soon as 1st Army established a rear boundary. Logistical support to 1st Army, Army Air Forces operating in France, and COMZ would be synchronized by ETOUSA (which was really the SOS commander and his staff). FUSAG, attached to 21st Army Group, was tasked with planning operations out to D+90, when the Allies hoped to reach the Seine and then take a short operational pause to organize a robust base area in Normandy and Brittany. The relationship among FUSAG, 21st AG, and COMZ throughout Overlord in the first version of the plan was hazy to say the least. Gale took the issue on in early February, gathering Crawford, Brownjohn (the British deputy G4), Lee, Lord, and the 21st AG MG (A) Graham and chief quartermaster BG Fielder to work out the details of the various relationships involved. The result was a tentative memorandum of agreement published on 9 February that formalized the sustainment procedures

¹⁴⁹ There was considerable confusion among the participants as to exactly who was in charge at what time. SHAEF and ETOUSA tried to clarify the issue by publishing numerous written orders throughout the spring and summer, but General Board Report Two made it clear that not every relevant headquarters agreed on exactly who was calling the shots at each stage of the campaign. COMZ was very reluctant to admit formal subordination to 21st or 12th Army Group at any point in the process.

between FUSAG and 21st AG while it was a subordinate unit.¹⁵⁰ Despite Gales' effort, professional disagreement persisted about the issue, especially with the relationship between FUSAG and any components of COMZ (other than the ADSEC) working in France prior to the arrival of SHAEF.

In a late attempt to keep his team involved in operational planning for the earlier stages of Overlord, Lee stood up a forward echelon (FECZ) staff on 7 February. Their mission was to coordinate with SHAEF and FUSAG while preparing to be the lead logistics headquarters in Normandy (at first supervising and then absorbing the ADSEC attached to 1st Army). The FECZ initially focused on fleshing out the sustainment plan for the period of D+41 to D+90 and supervising and integrating a similar effort by the ADSEC to cover D+20 to D+41.¹⁵¹ The FECZ was warned that it would deploy to the continent between D+21 and D+41 to supervise operations in France; but this never happened and the FECZ was disbanded and its personnel returned to COMZ in July. MG Lord himself admitted: "It [the FECZ] was detrimental to the overall planning effort to the extent that it placed an additional planning echelon between the Continental Base Sections and Headquarters SOS (COMZ) and drew its staff from the key personnel...of Headquarters SOS."¹⁵²

The ADSEC was formed in February, developed the D+20 to D+41 support plan in concert with 1st Army and FUSAG, and had reached its fully manned, operational configuration by April 1944. This headquarters did deploy to France and would be active as a coordinating authority off and on throughout the balance of the war against Germany. As employed to conduct operational planning and rear area control in Normandy, the ADSEC performed more as

¹⁵⁰ Moses, "Organization and Command in ETO," undated paper sent to R. Coakley, 7-8. Moses Papers, AHEC.

¹⁵¹ General Board 128, 13.

¹⁵² Ibid, 13. This document was prepared in the fall and winter of 1945.

a true forward echelon of COMZ. It did not have the resources to perform the traditional, doctrinal mission of an advanced section while also serving as a FECZ, which produced two negative effects.¹⁵³ First, COMZ was forced to adopt a scheme of logistical support that was planned and implemented, for almost three months, by a subordinate echelon that did not have the rank and experience to do so. Second, since they were busy accomplishing the mission of the FECZ, ADSEC had to take shortcuts in the execution of their more traditional function. In U.S. doctrine an advanced section existed to reconfigure bulk supplies into unit packages ready for easy distribution and use. For example, ammunition was shipped in very large, carefully packaged lots separated by caliber. It was the responsibility of ordnance units working for the ADSEC to break these packages down and reconfigure them into mixed loads for a division, regiment, or battalion for all the weapon systems in the unit. Overwhelmed with two distinct missions, the ADSEC had no choice but to shift some of their coordination and supervisory responsibilities to 1st Army and its constituent divisions.

To some extent SOS leaders blamed their isolation from early operational planning on the deliberate compartmentalization of the effort within ETOUSA and COSSAC. The ETO G-5, or plans section, was created in April 1943, allowing ETOUSA to establish a well-rounded team with the COSSAC planners at Norfolk House. As ETOUSA transferred much of its responsibility for planning over to FUSAG in the fall, the G-5 was abolished in October. Staff members who suddenly found themselves unemployed were transferred into newly authorized positions at COSSAC and FUSAG, or else they made their way back to the ETO G-3. The official history of SOS admitted that the staff allowed themselves to be overwhelmed with

¹⁵³ Aurand, 16-20. Aurand explains the doctrinal employment of base, intermediate, and advanced sections; how COMZ did business in France and Germany; and his alternative solution.

current sustainment operations at the expense of operational planning; only the technical services contributed much to the preparation for Roundup/Overlord in 1943.¹⁵⁴ Just figuring out which staff section at Cheltenham had primary responsibility for operational planning was a challenge; the task bounced from the G-3 to the G-4, but Lord admitted that “actually no-one really assumed it. Among the unfortunate consequences was the persistent lack of official troop forecasts, essential to proper planning....it was not until the second quarter of 1944 that an overall COMZ plan for the entire Overlord Operation existed.”¹⁵⁵

SHAEF published new orders on 10 March attempting to clarify command relationships through the various transitions projected to occur during the upcoming campaign. COMZ would still be activated once 1st Army established a rear boundary, a development projected to happen sometime between D+14 and D+21. SHAEF modified the original plan by directing COMZ to take direction from Montgomery and the 21st Army Group during this phase. FUSAG would be activated when there was room for 3rd Army in France and the Allies were ready to advance on Brittany and the Seine, conditions projected to occur somewhere between four to eight weeks after the start of operations. FUSAG would then serve as the coordinating agency, or supported command, among U.S. elements operation on the continent until SHAEF relocated and took over as the senior U.S. headquarters.¹⁵⁶ In isolation each of these transitions made sense. There was nothing wrong with 1st Army giving way to FUSAG (or 12th AG which displaced 1st AG as the principal U.S. operational headquarters for Normandy), and 21st AG giving way to SHAEF as the ground campaign coordinator. It was also logically possible for 1st Army to direct sustainment, then FUSAG to supervise COMZ, and finally ETOUSA/SHAEP to integrate

¹⁵⁴ General Board 128, 12.

¹⁵⁵ Ibid, 12-13.

¹⁵⁶ General Board Two, 54.

combat operations with logistical support. The problem is that each headquarters had planned, and continued to plan, these processes in isolation, and notably so for the sustainment mission. The second critical problem was that every written reference to SOS, COMZ, ETOUSA, or U.S. portion of SHAEF might be referring to the same officer, staff section, or organization. The responsibilities for certain duties were so jumbled together it was almost impossible to sort it all out.

SHAEF's Bid to Replace ETOUSA

The situation was so confusing and frustrating by the end of May that a few key leaders at SHAEF decided ETOUSA needed to publish a definitive order to address the phasing of command and control on the continent. At the same time, they mounted one final attempt to pull U.S. Army theater administration up to SHAEF before the invasion started.¹⁵⁷ ETOUSA's reaction to this process offered great insight into what SOS and chiefs of service saw as the strengths and weaknesses of the organization over the last two years. In general, there was very little reaction to the division of Overlord into three overarching stages and the elaboration of who worked for whom when. All SOS's organizational energy was applied to preventing the transfer of logistical coordinating authority to either the SHAEF or FUSAG level.

Lee's immediate, and arguably correct, response was to engage Eisenhower directly, to confirm that he knew about this initiative and see if he could head it off and prevent a bunch of unnecessary staff work. His letter from 29 May captured what seemed to be his traditional approach, which was to outline his own thoughts on a subject without specifically addressing the

¹⁵⁷ Ibid, 75. Crawford shared a draft of the document with Lee and ETOUSA and it therefore was labelled as his idea. See RG 498, UD 578, ADM 238 – Organization, NARA II.

questions or issues raised by the other parties. After denouncing the draft order shared by Crawford and assuring the boss that the ETO staff and service chiefs were completely against its proposals, Lee reiterated his two basic principles of organization, neither of which had much bearing on the issue at hand.¹⁵⁸ He thought it was helpful to remember that “[c]ontrol and responsibility for the logistical support of all combat forces must be established at the highest U.S. level. This basic principle is contained in *FM 100-10* and is a major lesson learned during the last war.” His second basic principle was that the highest U.S. administrative headquarters must have authority over the service chiefs, which entailed supervising the work of 21,000 officers and 435,000 men. SOS enjoyed the advantage of two years of practicing this task, and all the associated duties were well scoped and understood by everyone involved in the process. The implication was that SHAEF would be starting over from scratch while accepting a massive amount of work from SOS days before the start of the campaign in France. Lee went on to explain that daily interaction with the War Department, and more specifically the ASF, required the exchange of 1.7 million words a day to manage an Army supply inventory consisting of 700,000 individual line items. Lee did not address this issue, but he must have realized that some staff officers at SHAEF were dissatisfied in some way with ETOUSA. His solution, however, was not reorganization, but better cooperation and coordination. Lee ended his letter by offering to expand his team under Lord working at SHAEF “to more effectively address any questions about U.S. administrative issues relevant to combined operations” picking up on a suggestion offered by MG Lutes in the first week of May.¹⁵⁹

¹⁵⁸ Letter Lee to Eisenhower, 29 May 44. RG 498, UD 578, ADM 238 – Organization, NARA II.

¹⁵⁹ Ibid. Secret Memo, Lutes to Somervell, 8 May 44. MG Leroy Lutes Papers, DDEPL. This memo is discussed in greater detail at the end of this chapter.

Either Lee's letter was not enough to kill the issue or perhaps it did not reach Eisenhower in time to stop the completion of a second draft of the proposal on 3 June and a solicitation for feedback by 4 June. The feedback coming from ETOUSA originated with two groups: SOS general staff and the various technical service chiefs. Stratton prepared the draft for Lord outlining the definitive ETOUSA response to the topic, incorporating feedback from the G-3 and adjutant general. After the obligatory references to Harbord and Hagood and the sins of the GHQ during the Great War, Stratton noted the hostility and interference by SHAEF and FUSAG G-4 that had surfaced in recent months.¹⁶⁰ Stratton was worried that once ETOUSA compromised with SHAEF or FUSAG it would start a trend. Stratton wrote that you "cannot trust them to stay in their lanes, they will interfere in the exercise of the powers delegated to the CG COMZ." Stratton also mentioned that he was working with MG Hughes on revision to the proposed order, exploiting his operational experience and the clout of his name among Eisenhower's inner circle. Not addressed was what events might have generated the "hostility and interference that had surfaced at SHAEF and FUSAG in recent months" or what the command could do to resolve it.

Seven special staff sections at ETOUSA submitted responses that were very different in tone and substance from the SOS note. In the main they were ambivalent as to where theater authorities ended up as long as the technical services had access to Eisenhower through his staff and permission to coordinate directly with the ASF. In addition, SHAEF must remember to consult with their office prior to making a recommendation or decision. The head of the CWS thought that the draft order was still too vague and needed to state clearly what the relationship was between FUSAG and COMZ throughout the three stages. The engineer and quartermaster

¹⁶⁰ Draft rebuttal Stratton to Lord, 4 Jun 44. RG 498, UD 578, ADM 238, NARA II.

went a bit further in their criticism of the proposed elevation of War Department coordination authority up to SHAEF. Both men dreaded a return to the conditions they had faced before the merger in January, when any recommendation or decision required routing paperwork through two general staffs, each with different procedures, standards, and personalities. Moore, the engineer, noted that ETOUSA had been quick to make decisions without consulting his office under the old system. Littlejohn feared the emergence of friction between the staff teams working at SHAEF and COMZ because of the similarity and overlap of their responsibilities. Littlejohn did not want to return to the days where his physical and mental distance from the senior U.S. commander reduced his ability to do his job. When forced to work that way, his “estimates for personnel have been reduced all along the line. When I had to go through ETO there was always considerable delay, and subsequently the action taken was unsatisfactory to me. The only way I began to find a solution to my personnel problems was to go direct to General Devers over the head of his staff.”¹⁶¹ The only way to avoid these problems under the proposed restructure would be for the service chiefs to move to SHAEF, undermining the purpose and function of COMZ headquarters. Across the board the service chiefs recommended that the best solution was to retain the current structure.

ETOUSA published a final version of these instructions signed by BG Lord on 6 June 1944.¹⁶² Eisenhower decided not to move any significant duties up to the SHAEF level, but he did agree to eliminate the position of deputy theater commander as soon as COMZ was declared operational on the continent. In a concession to the concern expressed by all the service chiefs, the order reinforced the authority of the special staff and directed they position themselves at

¹⁶¹ Rebuttal comments on draft proposal for reorganization, Littlejohn to SOS Staff, 4 Jun 44. RG 498, UD 578, ADM 238, NARA II.

¹⁶² Lord, “Organization and Command of US Forces,” 6 Jun 44. RG 498, UD 578, ADM 238, NARA II.

COMZ headquarters. There were no substantive changes to the phasing of command and control. The operation would have an initial, transition, and final stage, each with its own associated decision points. Still confusing was the period when COMZ and FUSAG would both control terrain in France but when SHAEF was not yet in charge of coordinating the ground war. The wording in the paper implied that the two organizations were equals working directly for 21st AG. Expecting Montgomery to adjudicate between Lee and Bradley in any important issue was probably asking for too much. It was a topic that would continue to resurface during the first two months in France and eventually resolve in Bradley's favor. The most important point was saved for last – Eisenhower retained the right to exercise any of his theater functions using the U.S. staff at SHAEF and to communicate with the War Department accordingly. If some U.S. administrative issue was important or time sensitive to the commander, SHAEF reserved the right to bypass ETOUSA and handle it themselves.

The 6 June clarification was a sufficient stopgap, but by 19 July ETOUSA felt compelled to issue a short corrective, this time signed by LTG Smith.¹⁶³ It was a short document, one full page of text, which reads like an itemized list of problems that had emerged since in combat. It was surprisingly detailed, illustrating just how complicated this reoccurring problem was. Eisenhower thought it necessary to point out that every commander was “responsible for all administrative matters pertaining to their command, and such units as may from time to time be attached.”¹⁶⁴ This might also include the temporary delegation of authority associated with theater command. Read in context with the rest of the document and the current operational situation, Eisenhower's note reinforced Bradley's authority over all matters on the continent and

163 One suspects that the signature of Lord rather than Smith lessened the authority of the 6 June document in some eyes.

164 Smith, “Organization and Command of US Forces,” 19 Jul 44.

was an attempt to establish boundaries for ETOUSA. Eisenhower thought that the theater commander should only weigh in on those matters involving broad policy, objectives, or priorities when two or more major commands were affected.¹⁶⁵

Evidently disagreement had emerged about who was allowed to represent SHAEF among various agencies in the U.K. and U.S., so ETOUSA authorized USAAF in Europe and COMZ to work directly with British agencies and the War Department on technical and routine matters; all non-routine issues would flow through ETOUSA and then to London or to Washington. It also seemed that special staff sections were wrestling to maintain a balance between responsibilities at SHAEF and COMZ. Smith stated that “theater chiefs of administration and supply and special services” should position themselves as directed by the CG of COMZ and that they should balance their doctrinal responsibilities of advising the theater commander with the requirement to execute the sustainment plan. This seemed to imply that someone at COMZ was not satisfied with the quality or number of service staff left to supervise execution compared to the number directly supporting SHAEF. Remaining consistent with past guidance, the document ended with a reminder that when executing his duties as the theater commander, Eisenhower would consult senior Americans at SHAEF and chiefs of services as he saw fit.

Eisenhower thought that this new memorandum might generate as much confusion as clarity among the SHAEF staff, which drove him to write a one-page memo for that body on 21 July 1944. One detects a note of exasperation as Eisenhower wrote to explain the “procedures to be followed in carrying on so-called American administration in this Allied [emphasis in the

165 Those commands listed were ETOUSA, FUSAG, 12th AG, COMZ, USAAF in Europe, and any future major commands that might be created. Since Eisenhower was the theater commander, he was trying to warn his subordinates of the issues he would get directly involved in. He was also providing boundaries for his ETOUSA deputy theater commander (Lee) and deputy chief of staff (Lord).

original text] theater of operations.”¹⁶⁶ Eisenhower acknowledged the need to respect Lee’s authority and to avoid dictating methods or directly engaging or directing his subordinates, who, in this case, were the chiefs of service. But Eisenhower knew he would turn to the officers closest at hand for advice and direct them to take follow-up action on issues that caught his interest, making it imperative that they maintain good ties with their counterparts at ETOUSA. Finally, SHAEF and ETOUSA had to speak with one voice to the War Department; any significant topic involving all three organizations required especially delicate handling. It seems that Eisenhower had reached the point where he realized that he had two inefficient and overlapping organizations, but he could not come up with an elegant solution that preserved Lee’s authority. Eisenhower was clearly not happy with the division of labor between SHAEF and ETOUSA near the end of July, but he could not figure out how to quickly fix it.

By July 1944 the ETOUSA / COMZ staff was an organization with a dwindling reputation that was under extreme scrutiny. The great test for COMZ was just over the horizon, but already there were half a dozen senior detractors who worried that they would not be up to the task. Bradley and Moses wished to retain resources and authority as long as they could. Crawford suspected that Lee and Lord did not have a firm grasp of the fundamentals underlying the campaign plan and the associated support plan. Crawford also suspected that they did not know how to prioritize and then drive the various technical services that represented the effective strength of COMZ. SOS had done a magnificent job running the mounting operation for Overlord, a thankless but critical task. How well they could repair the infrastructure on the continent and run the LoC running from ports to the combat zone remained to be seen, but there

¹⁶⁶ Eisenhower, “Memorandum to the Chief of Staff, SHAEF,” 19 Jul 44. RG 498, UD 578, ADM 238, NARA II. The obvious implication was that it was almost impossible to divide issues into Allied and American categories to order to determine which staff should tackle them.

already were unhealthy cracks in the relationship among COMZ, SHAEF, and 12th AG on the eve of Cobra.

These developments would have been difficult to predict two years earlier, especially in the case of SOS. From its inception ETOUSA suffered from a poor reputation, was poorly resourced with personnel, and had little to do that their subordinates were not better positioned to accomplish through more direct ties with the AAF and ASF. The fortunes of the headquarters revived under Eisenhower, Andrews, and Devers, but ETOUSA was always at risk of being eclipsed by an operational joint-combined headquarters or U.S. army group staff or of being bypassed by its two most independent subordinates. The one niche ETOUSA successfully carved out for itself during its first year of existence was combined operational planning with the British, largely focused on Torch and then on Roundup. By the summer of 1943 SOS and ETOUSA had evolved and established norms to govern which staff was responsible for what processes – Cheltenham focusing on Bolero and Grosvenor Square dedicated to maintaining an operational dialogue with the British and the OPD at the War Department. Trapped in the middle, the offices of the technical services struggled to maintain the balance between these two different physical locations and organizational priorities.

If Bolero dominated the activities of ETOUSA during its first year of existence, Roundup rose to prominence during the second. Strangely, rather than increasing the authority of ETOUSA or pushing SOS to become a more operationally focused headquarters, the decisions at Trident and Quadrant seemed to shift the balance of power to FUSAG, COSSAC, and eventually SHAEF. By the time Eisenhower returned to London in mid-January 1944, it made perfect sense to merge SOS and ETOUSA, since both had divested themselves of anything beyond the garrison and buildup mission in the United Kingdom. The fatal step that initiated this decline

was Lee's failure to take charge of operational logistics planning in the summer of 1943. Rather than insisting that SOS staff lead sustainment planning for Overlord, he was happy to allow the ADSEC and FECZ to serve as the primary interface with FUSAG, ETOUSA, and COSSAC beginning in October 1943. As a result, the core staff at SOS did not understand the details of the concept of support, could not justify and integrate the estimates generated by the technical staff sections, and failed to make the personal relationships at FUSAG, COSSAC, and SHAEF that would have allowed the command to work through rough patches and recover from mistakes without a complete loss of confidence in their competence. Because others could plan and coordinate better than SOS, COMZ had already surrendered one of the two pillars underlying Lee's philosophy of a successful theater sustainment command. Operations in France would determine if they could successfully synchronize logistics in execution.

Conclusion

This chapter illustrated how the impact of intellectual trends, organizational culture and reputation, and decisions made at a higher level limited the options available to various commanders of ETOUSA. These factors also shaped how ETOUSA received and implemented lessons emerging from the Mediterranean, the Pacific, and the China-Burma-India (CBI) theaters. Devers and Eisenhower did not have a clean slate, and lessons that reinforced pre-war assumptions were more likely to gain purchase than those that undercut how Marshall, Somervell, and Lee wanted to operate. The new systems extant in the ETO by the summer of 1944 represented a partial win for the combat-seasoned commanders and logisticians, who managed to wrest back control over maneuver and logistical planning from the OPD, ASF, and theater SOS. But this happened late in the game, and the consequences of mistakes made by

COSSAC, ETOUSA, or its SOS before FUSAG and SHAEF gained their balance would be very difficult to overcome. Furthermore, ETOUSA / COMZ would theoretically take over logistical planning for the post-Overlord period around D+90, and they still had primacy for synchronizing logistics in the communications zone. Many with first-hand experience doubted that Lee's SOS could handle either responsibility effectively, but they were not in a position to force change before the crisis arrived in August.

Operational experience in 1943 and the first half of 1944 illustrated the long time-horizon associated with organizational change, and the evolutionary nature of improvement. ETOUSA cycled through four different commanders and half a dozen operational priorities between May 1942 and July 1944, and each commander had his own opinions about the best way to manage large organizations and the importance of administrative support in relation to a campaign plan. External conditions mattered. The ETO was virtually a backwater for the first six months of 1943, but it took center stage after the Allies committed to Overlord and to a combined bomber offensive at Trident and Quadrant. It took time for combat commanders and logisticians to fail while trying to make doctrine and higher-level guidance work, experiment with alternatives, and develop their own methods of conducting modern mechanized warfare. What worked in combat provided the final measure of value, but it was tough to overcome intellectual baggage from the First World War, problematic doctrine reinforced by professional education, and the implications of the War Department reorganization of March 1942. By VE Day leaders in the ETO thought they had figured out how to conduct theater campaigns, but they would admit in hindsight that they had landed in France with critical flaws in capability, equipment, and organization.

Three developments were needed to complete the shift to a more effective structure. First, the U.S. Army had to experience modern theater-level combat and the existential linkage

between maneuver and sustainment in a joint operation. This occurred to a limited extent in North Africa and Italy, but France took the scale and scope of the experience to an entirely different level. Second, the predominance of power and authority for campaign planning had to shift from Washington, D.C. to field commanders, a transfer that was directly tied to the competence and confidence of Eisenhower and his key lieutenants. Third, the idea of a U.S. theater command as the supreme synchronizing agency had to give way to its joint-combined equivalent. The U.S. experience in France during the Great War had not prepared the Army for the dual dynamic of combined and joint operations displacing a national theater command, and Washington was slow to respond to early developments during World War Two in a holistic and formal manner with these insights captured and promulgated in updated doctrine.

It took time for the people building the structure to recognize that problems with ETOUSA or SOS were merely facets of a larger process. By the end of the war, most officers serving in the ETO or MTO had learned that the combined headquarters was the appropriate integrating agency for joint theater warfare. Washington needed to follow the reasonable lead of the theater staff and not the other way around. Finally, it took time for senior combat commanders to realize how fundamental it was for them to drive the process to synchronize maneuver and sustainment and then to learn how best to accomplish this task. Lee's heart was in the right place, but his headquarters did not have constant access to the latest operational concepts and estimates from supporting agencies with which to refine their own concept of support on a recurring basis. Even if they had possessed this capability, Lee could neither order nor convince combat leaders to curtail their schemes of maneuver to conform to the physical limitations imposed by logistics. Only the commanders held responsible for combat outcomes had the authority to tie realistic objectives to the resources available. They also had the most

pressing incentive to shift more weight to providing service troops, seizing objectives that improved the ability to land and distribute supplies, and to minimize unnecessary destruction to the existing infrastructure. COMZ might have developed to the point where they could develop a magnificent plan, but only SHAEF or the army groups could decide to agree with its objectives and limitations.

The next chapter picks up this theme by exploring what SOS was consumed with during its two years in the U.K. SOS was a large and effective organization, dedicated to learning and getting better, but working under tremendous handicaps. In the end, the command was fully consumed executing Bolero, and it could not envision, much less organize for and practice, the tasks that would make a key difference during mobile warfare. This was linked to, and to some extent resulted from, their failure to embrace operational planning for Roundup. Small pockets of ETOUSA and the special staff at SOS worked with COSSAC to plan the return to France. As a result, problems emerged in preparing and defending a troop basis, special equipment lists, and recommendations to modify or field new organizations. This friction further undermined the reputation of SOS and accelerated the transfer of power to SHAEF and FUSAG, not only for operational planning and interaction with the ASF and OPD on administrative issues, but even in the control of service units once on the continent. ETOUSA / COMZ slowly lost their vote on theater logistics not only because of redundancy among them and SHAEF and FUSAG but also because experienced veterans began to question the professional competence of the staff. Unfortunately for the preservation of the authority of SOS staff, better alternatives existed, to include officers with significant operational experience in North Africa, the Middle East, and Italy. As we have seen in this chapter, U.S. pre-war thinking had been largely invalidated by the hard school of war in North Africa and the Mediterranean. Power shifted to the joint-combined

headquarters, experienced combat commander-logistician teams, and the technically competent special staff sections, but this did not happen soon or decisively enough to avoid a major breakdown in France in August and September

Chapter 4 - Preparing SOS for Roundup

Lee's Service of Supply was a disciplined and functional organization, committed to learning their craft, getting better, and integrating honest feedback. The organization found it profoundly difficult to get a system up and running upon its arrival in the U.K. It seemed as if everything it was trying to accomplish had never been done before, and officers assigned to SOS looked in vain to doctrine, their pre-war professional education, and historical experiences from the last three decades to provide clues on how to set up and operate the organization. Frustratingly, the U.S. War Department seemed as lost as SOS – they could not help SOS move through its initial teething period any faster and sometimes made things much worse during the early days of Torch and Bolero. SOS suffered from a shortage of service troops, and the men that were assigned were only partially trained. Getting the invasion force for Torch out of the U.K. provided a wakeup call and pointed out a few essential tasks SOS and the ASF would have to master, but also did damage to Lee's professional reputation among his peers and superiors. But Lee and his command emerged from the experience committed to learning from and fixing their mistakes, and realized that the British could help accelerate this process. One of the most challenging tasks was to reconcile the independence and authority historically wielded by technical service staff sections with new concepts advanced by Somervell. Lee had to set up a new system to regulate interaction between his staff, the theater special staff, and regional base section commanders. Lee also understood that he needed a powerful transportation staff section well before the ASF established the Transportation Corps, and SOS was innovative in its early and expansive empowerment of a strong movement staff. By late 1943 Lee's SOS had mastered the skill set required by Bolero and was pushing the ASF to match his effectiveness, but the day to day management of the buildup in the U.K. left very little energy for any other tasks. As the

focus at ETOUSA shifted from Bolero to Roundup in the late summer of 1943, Devers discovered that SOS could not expand its scope to provide a similar quality of support to operational planning. By early fall Devers was forced to create two alternative sources for operational logistical support, organizations that would go on to challenge Lee's primacy over theater logistics throughout 1944.

Because the inner circle of senior leaders at SOS was not intimately familiar with the details of the sustainment mission in France, they struggled to convince the War Department of the validity of the service unit portion of the troop list for the coming invasion. SOS could not articulate the linkage between the critical tasks they would perform during Overlord and the equipment and material requested to perform them. This emerging lack of confidence in Lee and SOS staff was compounded when FUSAG and SHAEF discovered critical shortages two months before the landing. SHAEF found itself dragged into arguments between SOS and the War Department, injecting a third party into what was already a complex relationship. Rather than sending a unified logistical perspective back to Washington, Eisenhower found himself asked to adjudicate between two competing groups seeking to represent the ETO with the ASF and OPD.

Despite a lack of unity and an imperfect grasp of how Overlord would play out over its first 90 days, SOS and ETOUSA produced a troop basis that in retrospect was almost perfect. SOS also managed to collect all the equipment and supplies necessary to move, outfit, and maintain a million Americans in Normandy. The only failures were either completely beyond their control, such as artillery ammunition, or associated with special projects (PROCO) above and beyond unit T&O requirements. Two shortfalls proved to be particularly problematic in France in August and September: heavy equipment to reconfigure LoC truck companies, and material to build, maintain, and operate POL pipelines.

After a two-week external evaluation conducted by an ASF team led by MG Leroy Lutes, SOS remained something of an enigma. Lee and SOS got results but in the process they made enemies. They excelled at Bolero, but they failed to establish the credibility and relationships to shape the sustainment plan for Overlord. SOS seemed to lack a central voice for conveying their plans and progress to FUSAG. Poor relationships allowed doubts, resentment, and questions about the professional competence of SOS to fester. Eventually this friction would cost SOS its preeminent position as the agency charged with planning and managing logistics for the theater commander. By June Lee was barely trusted with long-range resource planning, routine coordination with the War Department, and supervision and management of the communications zone; elements of this portfolio were already under attack. The gaps among U.S. doctrine, the ASF method, and what was actually happening in the ETO were growing wider and wider. Unfortunately for SHAEF, the theater command and control metamorphosis was still in progress when the logistics crisis occurred in August, when none of the three competing sustainment agencies were capable of rising to the occasion.

In order to understand why COMZ struggled in France in August and September 1944, one must understand what consumed most of the time and attention of ETOUSA and its SOS in 1943. First, SOS tried to balance its efforts between executing Bolero and preparing for Roundup / Overlord. This included the significant expansion of the Office of the Chief of Transportation (OCOT). Second, ETOUSA and its SOS built the troop basis for Overlord and then secured the material necessary to make the plan happen. Third, ETOUSA and Lee created a half-dozen new agencies to plan Overlord. By examining these developments an honest contemporary assessment of the relevant weaknesses that still existed in SOS just before

Overlord begins to emerge, as well as an appreciation for how the rest of the theater viewed SOS, and how accurately SOS saw themselves.

It is important to understand the challenges and priorities of SOS, especially during the period of their ascendancy from January to October 1943. Things had been simpler during the first six months because of the imperative to get the forces associated with Torch ready for combat and deployed out of the country. During the operational lull that followed Torch, Lee had more latitude to select his own priorities, but found it harder to justify his requests for resources from the War Department. In early 1943 SOS threw itself into trying to create an effective organization with new people, command structure, and two radically different missions, all while adjusting to life in a foreign country. Lee had to create new teams from the district, region, base, and SOS levels using half-trained personnel who had never worked together and using doctrine that offered few techniques for integrating services and functions. As a result, the command spent inordinate amounts of time and energy just figuring out how to work together, cooperate with the British, and train their personnel.

Finding a focus for SOS was complicated by the elephant in the room, Lee's supervisory control over the theater technical staff. This placed the chiefs of service in an almost impossible position. One of their two major responsibilities was to advise the theater commander and help with planning how to sustain operations. Their second major function was to direct service forces in the efficient execution of that plan. These men found themselves trapped between SOS and ETOUSA staffs, needing to maintain a footprint in London and Cheltenham and execute two missions simultaneously. At the same time, Lee was trying to develop base section commanders who would replicate his authority over the technical services one layer down the chain of command. It was a great idea that had to be implemented in order to conduct decentralized and

flexible operations in France, but it flew in the face of tradition, doctrine, education, and the way U.S. logistical functions were organized. Lee was correct in concluding that the day of stove piped technical support was over and that logisticians needed to create effective combined-services organizations just like in the process occurring in maneuver formations, but this was a massive leap for which the U.S. Army was not quite ready.

In his favor, Lee was quick to recognize the mistake made by the U.S. Army in disbanding its motorized transport service and ignoring the need to integrate trucks with more traditional forms of transportation, two lessons that had been learned during the Great War. He and Frank Ross acted decisively to enlarge and empower the ETOUSA OCOT. However, because this was a theater initiative and not comprehensive reorganization from the center, it would face a lot of bureaucratic resistance from the War Department. Lee, Ross, and the theater transportation staff foresaw a couple of critical problems and how to solve them. But they could not break through inertia quickly enough to solve the transportation problem that was expected to arise near the end of Overlord.

The reputation of SOS was directly linked to how well it accomplished two linked tasks. First, ETOUSA had to produce an approved troop list for Overlord; linked to that, SOS had to amass the equipment and supplies necessary to establish a secure lodgment. Success with both demanded a deep understanding of what service troops would have to accomplish in France and familiarity with new techniques emerging from other theaters.

A major burden faced by ETOUSA was the requirement to determine the right ratio of ground, air, and service troops to support theater-level expeditionary warfare and then to provide these troops for Overlord accordingly. Because the U.S. Army had little operational experience and could not agree about these percentages at the highest levels, ETOUSA labored under a

heavy burden. Working with an overall force cap driven by what could be shipped across the Atlantic in a set amount of time, Devers authorized percentages of this force to the field force, air force, and SOS to scope their estimates. Working without a final scheme of maneuver and having no direct historical examples from the modern period, SOS did remarkably well in building the troop basis to support Overlord for its first ninety days.

With the benefit of hindsight, we know that motorized transportation proved to be the one critical material shortfall in COMZ in August and September 1944. Ross anticipated this problem in August 1943 and asked for additional truck companies and heavy equipment to support an advance to the Seine and beyond.¹ Like his peers, Ross was forced to operate under a force cap and decided that heavy equipment could make up for a shortage of truck companies. Ross worked with various agencies within the ASF and together they convinced the senior leaders that heavy trucks were a production priority for 1944, but somehow this never translated into new heavy truck companies in the order of battle in the ETO. By the time ETOUSA, SHAEF, and ASF realized that they were not going to get these heavy trucks before the invasion began, it was too late to get the program back on track.

The effort to justify an overall troop basis and the motor transport required in the theater illustrated weaknesses within SOS. It demonstrated that the command did not understand the logistical tasks it would have to perform in France, and did not recognize the importance of reconciling the various planning assumptions and consumption estimates floating around in the dozen organizations building the multi-stage concept of support. Discovering no uniform concept of support to justify the ETOUSA troop basis, Devers moved responsibility for this

¹ There is one requirement document in the ASF records that states the ETOUSA OCOT request was to support an advance to the Westwall, but that portion is marked out and does not appear in the final justification. RG 160, Director of Plans and Operations, Planning Division, Theater Branch, Box 52.

product to other organizations. When it discovered in March and April that the command still faced significant material shortages, SHAEF got directly involved in reviewing the planning assumptions behind those requests. Both of these events damaged the reputation of SOS and contributed to the tendency of SHAEF and FUSAG to get involved in SOS's business. By late May 1944, SHAEF and FUSAG were well along in the process that would transfer responsibility for logistical integration and synchronization away from COMZ to the joint-combined and ground combat commanders.

In late April and early May, three or four incidents suggested that ETOUSA was not up to the challenge presented by Overlord. Small procedural issues implied more significant problems with establishing and enforcing standards across the technical services and five base section commands. Already there was friction between support and combat staffs up and down the chain of command. There were also complaints about a lack of transparency in making decisions and allocating resources. One had to pull information from SOS and its subordinate structures rather than receiving freely offered periodic updates. Evidently SOS staff had a hard time envisioning what skills and processes would be important in France and developing streamlined methods for handling them. The command had largely mastered routine supply procedures in the U.K. by May, but critical items could not be located and rushed through the system. SOS had figured out how to operate in the U.K., where timeliness was not such a big deal, but three or four warning signs pointed to flaws that would be exposed during more intense operations. It did not help matters that MG Lutes considered the persons filling two most critical posts on the SOS staff, Lord and Stratton, unqualified for their positions.

For complex reasons Lee's SOS lost the authority needed to drive logistics planning and its integration into the campaign plan over the winter of 1943 and 1944. Rather than lead this

process, Lee was directed to provide augmentation to 1st Army and FUSAG to develop the campaign plan for Overlord. By May 1944 ETOUSA had in effect been eliminated. SOS was reduced to an organization charged with routine coordination with the War Department, and it had an uncertain role in long-range logistics planning. Lee retained his role as COMZ commander and overall theater logistics integrator, at least once his headquarters reached the continent and took over from the ADSEC. It was the one mission area that Lee and SOS managed to retain in accordance with pre-war doctrine. It would also prove to be a task for which COMZ was not prepared, exposing the remaining gaps among COMZ staff, the technical services, and the base sections. Lee's struggles to run COMZ in August and September also revealed his staff's inability to coordinate and cooperate fully with SHAEF and 12th Army Group.

SOS in Operation

What prevented SOS from focusing more on operational planning? What did it do to prepare for Overlord while managing Bolero? Like most organizations, SOS focused most of its energy on the mission at hand. They did not ignore the future, but they did not make it a top priority either. It is too easy to fault Lee for sweating the simple stuff and postponing serious thought about Overlord, but this is not fair. Everything SOS did in the United Kingdom was new and unproven. Lee had to build a general staff for SOS and special staff for the theater from scratch, find a headquarters complex, and deploy his own service troops while simultaneously supporting Torch during its first seven months in country. These tasks were complicated by the fact that no organization in the U.S. Army really knew how to do its wartime job. What would become the ASF struggled to gather and load men and equipment for the U.K. and North Africa.

AFHQ did not know how to plan expeditionary campaigns, a problem complicated by having a new team, a tight timeline, and an exceedingly complex scheme of maneuver and support. Nothing was labeled properly, packaging fell apart, and equipment disappeared into British warehouses never to be found again. Establishing the SOS footprint across the U.K., supporting Torch, and fixing the glaring problems exposed by that operation required Lee's full attention into the spring of 1943.

In hindsight, SOS was overwhelmingly consumed with executing Bolero during its time in the U.K. Oversimplified, Bolero required SOS to unload, move, and house or store or house all the personnel and material necessary to conduct strategic bombing, launch an amphibious invasion of Europe, and sustain the infrastructure needed to make these tasks happen. In practice this meant moving hundreds of thousands of Americans to Great Britain and then building the cities needed to allow them to work. Not only did the U.S. Army have to build housing, hospitals, factories, warehouses, training areas, and airbases. It had to do so using untrained service troops who were often in short supply and using material that had to be imported from the United States. Executing Bolero and addressing training shortfalls among service troops demanded most of SOS's attention.

The act of executing the Bolero mission strengthened SOS in many ways, helping it prepare for its combat role in France. But the danger was that Bolero was so different from the operational mission of running a COMZ that SOS was unprepared to execute critical aspects of the mission it had fought so hard to retain against all other claimants. The command became expert at mounting an invasion force, coordinating with the U.S. War Department and various British ministries to prioritize and sequence a massive buildup in the United Kingdom, distributing troops and supplies from ports to depots and camps across the country, and running

the routine business of garrison life and sustainment in a highly developed nation. But the intellectual distance maintained between SOS staff and the combined Roundup planning team translated into a mental break between executing the immediate mission while preparing for a very different role in future operations.

The role of COMZ in France would emphasize a different set of capabilities. There SOS would have to repair and operate a rail network and port facilities massively degraded by both friendly and enemy combat action, using trucks and planes to bridge the gap until those repairs were complete. Unlike what had to be done in Great Britain, managing the COMZ in France was about synchronizing the activities of base commanders and technical services. Base section boundaries in the U.K. were specifically arranged to link ports to depots and camps by rail lines, with little to no traffic flowing across the boundaries of some other base section.² Because of the volume of activity at ports, on rail lines, and along roads, the transportation section learned to master controlling traffic to avoid congestion and shifting supplies from one means of transport to another. But they did this without the complications associated with doing so across base and army boundaries, where the service troops involved might answer to two or three different chains of command.

In addition, in France SOS would have to communicate with the armies to determine what they had on hand and what they desperately wanted delivered as an immediate priority. Yet they would do so with no precedent established on who would be the arbiter setting priorities between Army ground and air commanders. Whether it would be Bradley, Spaatz, or

² This approach was only possible because the U.S. had access to four clusters of ports, one for each base section. This was not an option in France until Marseilles and some of the Channel ports opened in September. The only practical solution before late September was to land all supplies in Normandy and then carry them across anywhere from two to five section boundaries. Coordinating the flow of these supplies across those boundaries was something SOS did not practice in the U.K.

Eisenhower, the procedures were not developed and practiced while SOS was in the United Kingdom. Finally, a critical weakness of SOS that would need to be fixed before they took over sustainment on the continent was their unfamiliarity with the campaign planning that had occurred to date. SHAEF would direct air and ground maneuver, but Lee needed to ensure that there were trusted and informed agents presenting the reality of logistical constraints to the G-3 and commanders. Lee's organizational abdication of the planning process for sustainment for the first 90 days in France meant that the primary staff did not have the details committed to memory. Nor had they established the reputation and personal contacts at SHAEF or within 12th AG to decisively influence decision making in August and September.

It is easy to recognize these two distinct missions in hindsight and to realize that SOS was not as prepared for conditions on the continent in August as they should have been. But did they recognize the nature of the problem at the time before the invasion? If they did, why didn't they do a better job getting ready to perform the key tasks listed above? The answer to the first question is a qualified yes; elements within SOS staff realized what tasks would be important in France and took steps to prepare for them. There were residual shortfalls because it is very difficult to execute one complex and challenging task while preparing for another, all the while trying to overcome serious shortfalls in manpower and equipment. It is one thing to talk about and to train for a task, but it is something else entirely to practice it every day for weeks on end. SOS and ETOUSA had little opportunity to gain practical experience supporting major ground combat in the United Kingdom and had few opportunities to exchange personnel with AFHQ or NATOUSA. Finally, Lee and SOS were involved in planning Roundup to the maximum extent that Crawford, Bradley, and Moses would allow. But this was insufficient to involve the majority of the staff at Cheltenham, and Lee did not push the issue with Devers or Eisenhower

during the last nine months before the invasion. It is fair to say that Lee thought that he had detached enough of his people to support logistics planning and had more than enough critical work to keep the rest fully engaged. In his defense, Lee tried to ensure that SOS was a learning organization that devoted time and resources to training and seeking out the latest developments from other theaters.

The Role and Functions of SOS in Great Britain

SOS kept meticulous notes from the command and staff meeting held every week between October 1942 and September 1944, notes that provide fascinating insight on the priorities and function of the organization across this period. They confirm how much effort was devoted to learning and trying to prepare for combat operations. Base section commanders attended every other meeting; SOS and ETO special staff attended weekly. Chiefs of services, general staff directors, and commanders attended meetings themselves, sending deputies only when they were traveling on business, sick, or detained in London working with the ETOUSA staff. After a few months of conducting the meeting at the restricted level, it was upgraded to secret level in the first half of 1943, allowing the audience to discuss operational issues freely and in great detail if necessary. Attendance grew over time and eventually included a senior LNO from the British Q Branch, 8th Air Force, and the U.S. naval command in Europe. After February 1944 the group was joined by the ADSEC and FECZ commanders and COL Whipple, the chief of logistics plans at SHAEF. Any American or British distinguished visitors were invited to sit in on meetings, and Lee tried to ensure there was a guest briefer or two to share recent combat experience or explain the role of the organization and its relationship with SOS. It

was a powerful group of individuals who had their fingers on the pulse of everything concerning logistics and deployment in Great Britain.

Lee clearly valued information-sharing and embraced opportunities to learn from others. Once things settled down a bit after the initial surge associated with standing up SOS and getting Torch launched, the command took measures to ensure that sections remained abreast of official updates. The SOS staff memo published on 16 December 1942 pointed out the existence of a War Department incoming messages file in the Adjutant General's office that was required reading for all officers assigned to the command.³ A week later the Office of the Quartermaster General announced that it had formed a reference library and placed a call for donations of material that the staff had in their possession that might be of use.⁴ These actions demonstrated that SOS understood the value of staying abreast of official publications from the United States. The team at Cheltenham was aware of publications coming out of the War Department and other theaters; the quality of those documents was beyond their control.

Another indicator that Lee was committed to creating a learning organization was the inclusion of a guest lecturer or the screening of new training films at the weekly command and staff meeting. Guest speakers ranged from visitors from the United States, typically from the War Department, British officers working closely with ETOUSA, or personnel with recent operational experience traveling through the country. In July the group received a briefing by an engineer colonel who had supported the landing at Attu, and MG Crawford described his

³ SOS AG Staff Memos, 16 Dec 42, RG 498, UD 402, Box 2606, NARA II. This library included circulars, regulations, field manuals, and tables of organization published by the War Department. The AG maintained a master file and passed copies from office to office to encourage currency.

⁴ SOS OCQM Circular Letter 34, 23 Dec 42. RG 498, UD 1089, Box 5122, NARA II. The circular announced that the library contained seven volumes of reference data, technical manuals for various equipment, and *FM 100-10 Quartermaster Service in Theater Operations* and that it was in the process of collecting more material for the command.

experiences in the Middle East, going into detail about how his command had supported 9th Air Force covering Montgomery's pursuit from El Alamein to Mareth.⁵ Chiefs of services tried to visit active theaters for anywhere between ten days to three weeks, and they provided a detailed out brief upon their return that generated a lot of interest and follow-up questions.⁶

One of the most popular guest lectures was the 29 November 1943 appearance of LTC Eymer, the G-4 of 1st Infantry Division. The SOS staff was shocked by a few of his comments, caught by surprise by the friction he described with logistics up at the frontlines. Eymer's most passionate point, and the one that seemed to resonate with the room, was his dissatisfaction with daily consumption planning figures currently in use. Eymer pointed out that a division ended up with too much small-arms ammunition, not enough artillery ammunition, the wrong fuses and propellant charges, and a drastic shortage of spare parts, particularly for weapons and trucks.⁷ This had driven the division to develop its own planning figures for combat that the G-4 promised to mail to BG Weaver upon his return to the division compound. Eymer explained that combat introduced friction that was hard to forecast; units broke and ran under enemy attack, leaving behind equipment in the process. Ships were damaged and sunk and the cargo lost with them, and the procedures explained in the plan for rapid replacement of major Class II items did not work during the Sicilian invasion. Brand new equipment issued for the invasion did not work; twelve 57 mm guns had to be modified by division workmen to fire. Luckily the unit had decided to test-fire the guns before loading them for the trip to Sicily.

The fact that leaders in SOS were surprised by these statements and did not realize the most fundamental figures used in planning were so inaccurate is illuminating. Their interest in

⁵ SOS C&S Notes, 5 Jul 43. RG 498, UD 578, Box 3882, ADM 455, NARA II.

⁶ Ibid, 19 Jul and 16 Aug 43.

⁷ Ibid, 29 Nov 43.

the topic, the intensity of their questions, and their sincere desire to get their hands on all the written material Eymer could share demonstrated their professionalism and commitment to winning the war. Their ignorance of the reality of logistics at the infantry division level was not an indictment of the professionalism of the officers at SOS or ETOUSA. It was a reminder of the barriers that existed in sharing hard-won operational experience. The 1st ID and the corps and armies to which it had been attached had evolved after two campaigns. LTC Eymer believed that the lessons derived from North Africa and Sicily would apply during Overlord. In his opinion, they were validated lessons learned that should impact future planning and execution. And they were lessons learned that SOS did not know. That was because building an effective process for identifying lessons is incredibly difficult. Despite the huge effort expended to extract and share combat experience outlined in chapter two, and the willingness of SOS to learn from others, the reality was that a huge barrier existed between NATOUSA and ETOUSA. It is hard enough to learn new tasks when that is the daily mission; it is almost impossible to evolve and to develop when getting just the occasional oral or written summary from observers while simultaneously doing a full-time job.

Keeping ETOUSA, and really the entire Army, abreast of effective techniques developed within the elements assigned to NATOUSA and at AFHQ was a complex and resource-intensive process. The AGF did better at it than the ASF did. On 6 December 1943 the special guest at SOS command and staff meeting was LTC Allen from the ASF Military Training Division at the Pentagon under BG Weible. He had been sent to Europe to extract practical experiences that should be folded into “ordnance, signal, chemical warfare, engineer, and [other] services” training.⁸ Miller was aware of the training observations and circulars coming out of North

⁸ SOS C&S Notes, 6 Dec 43.

Africa, but "...practically a hundred percent of everything that comes back is applicable primarily to the Ground Forces and there are no lessons in there for the Service Forces." Miller was hoping to fix that by talking to service units in recently transferred divisions and corps. The fact that little of value had come out of North Africa, despite the number of observer team visits and despite the long-term assignment of an ASF LNO to the NATOUSA staff, indicated ASF had not placed any formal demands on the folks it was sending into the theater. It also seems that December 1943 was a bit late in the game to get serious about doing something to address it and that it was probably beyond the capacity of one lieutenant colonel. No wonder SOS was so surprised by the conclusions shared by LTC Eymer, and no wonder that it would be overwhelmed by the pace and volume of work in August 1944. The ASF failed to develop a system to extract detailed lessons learned, integrate them into new unit and leader training, and develop a retraining program for forces already deployed overseas.

Miller was outlining the traditional, or institutional, approach to a professional lessons-learned cycle, one that relied heavily on formal education, training, and retraining in the field. A second approach, by no means an either/or proposition, was the organizational method, which emphasized cross-pollination through a structured individual and unit rotation policy to disseminate combat experience. The most effective approach would have been to pursue both with equal vigor. In North Africa the Allies put a lot of energy into their institutional approaches to learning with mixed results. It was characterized by the formation of teams within the War Department tasked to observe, distill, and integrate lessons from active theaters back into the training base, which included an impact on professional education and the revision of doctrine. AGF put more resources into the task in North Africa and produced better results than the ASF, but they overemphasized individual, squad, and platoon skills at the expense of higher-echelon

collective tasks. Training and officer professional education improved, but capstone doctrine changed very little during the war.

Because the ASF did not invest as heavily in institutional feedback loops as the AGF, service organizations had to rely more upon learning by doing, informed by informal unit AARs, histories, and summaries from units supporting combat operations in the Pacific or in North Africa. Service units could become more effective by doing their job in Bolero or Torch, but the U.K. did not perfectly replicate a combat theater. The tempo and sense of urgency were greater in an active combat theater, and the need to interact with and compromise among air and ground maneuver headquarters was a major aspect of the mission that SOS could not adequately practice in the U.K. Finally, the distribution of men and material in North Africa and the Mediterranean relied on a blend of rail, sea, and motor transport over much greater distances than those faced in the United Kingdom, and domestic factors limited how much SOS could recreate those conditions for training.

SOS understood what they were missing, thanks to the reports they read and the visitors they welcomed to their weekly command and staff meetings, but the final steps to integrate this experience eluded them. ETOUSA and NATOUSA, with the cooperation of the War Department, could have leveled the operational experience between the two commands with a deliberate and carefully managed personnel transfer policy between the two theaters. The U.S. Army recognized the importance of shifting veterans from the Mediterranean back to the training base and the War Department, but no one insisted on a similar cross-leveling between active and quiet theaters. SOS, ETOUSA was constantly losing officers to AFHQ and new logistical commands forming in North Africa, but it was largely a one-way street. Only in January 1944 when Eisenhower returned to ETOUSA did the theater experience an influx of combat-seasoned

sustainment personnel, but most of them were sent to SHAEF, FUSAG, and the 1st Army staff. The few senior officers who did deploy to the Mediterranean and then return to ETOUSA played a prominent role in getting SOS ready to succeed in France. The experience of MG Frank Ross demonstrates very well just how helpful it was to serve in a combat theater for a few months prior to resuming duties as the chief of transportation at ETOUSA.

A second method in an organizational approach to integrating validated lessons learned during ongoing operations is to divide the command into an operating section and a planning/preparing section. SOS was responsible for a massive range of activities associated with Bolero that had to be managed on a day-to-day basis. That was the purpose of the staff at Cheltenham, which Lee called his operational headquarters.⁹ A second major function of SOS was to support ETOUSA, which included sustaining 8th Air Force in its strategic bombing offensive, planning and preparing for Roundup/Overlord, and fighting for resources for the theater in their interactions with the War Department. This was the role of SOS element reestablished and then reinforced in London in March and then August 1943.

Through the process of conducting operational planning, the Americans working at COSSAC learned what forces, equipment, and supplies would be necessary to secure a lodgment in France. These details gave more authority to their appeals to the War Department for resources. It was essential for the sustainment planners at COSSAC to integrate everything they could learn from their peers fighting in the Mediterranean and to secure the right mix of capabilities and to combine them at the right time and place. The various amphibious assaults offered a gold mine of lessons at the tactical scale, while AFHQ and the two service commands

⁹ SOS C&S Notes, 9 Aug 43. This operational headquarters was at Cheltenham under Weaver, and the planning headquarters operated out of the Selfridges Annex under Lord, then Crawford, and then back to Lord.

in the Mediterranean were learning how to conduct joint theater-wide sustainment at the operational level. In a perfect world, Lee could have formed a planning and study group, located in London working with COSSAC, with the sole mission of studying, visiting, and integrating techniques emerging from NATOUSA into the Roundup plan and the troop basis associated with it. An associated task would be to determine how to reconfigure and run SOS and its base sections in order to accomplish the mission in France.

Lee understood the importance of his planning headquarters in London and resourced it appropriately, but never to the level that would have allowed such a precise focus on studying other theaters and preparing to operate under combat conditions. He assigned Crawford and Lord as his personal representatives to ETOUSA, and he split the 1,424 officers assigned to SOS in August 1943 equally between Cheltenham and London.¹⁰ Approximately 60% of enlisted personnel served at Cheltenham with the balance, around 1,500 men, working in London. Recognizing that some experts were needed at both locations, Lee took steps to make it easier for officers to travel between the two headquarters. SOS coordinated a special overnight train service with sleeper cars providing one-way passage in each direction on alternating nights. This train was especially helpful for the chiefs of the services who tended to spend a lot of time in London working with ETOUSA and COSSAC. The system was not perfect; if called away on short notice to support ETOUSA, SOS staff officers found it impossible to get official travel orders, and without orders, getting lodging and meals in London was problematic. The London Base Section, headquarters commandant, and service chiefs found workarounds, but the difficulty associated with getting official travel orders in a timely manner created an additional source of friction that made supporting the efforts in London that much harder. Ross and

¹⁰ SOS C&S Notes, 25 Oct and 15 Nov 43.

Littlejohn understood the problem and could offer various solutions; when mentioned at an August 1943 staff meeting, the whole issue came as a surprise to Lee.¹¹

SOS did a great many things right in trying to establish a planning headquarters that could focus on future operations, so why were they not more effective in recognizing and rectifying those challenges that would cripple COMZ in September? First, very few of the over 2,000 soldiers working in London were directly involved in operational planning throughout 1943. The majority of Americans working with the British at Norfolk House on the Roundup plan came mainly from the ETOUSA staff from a few technical service sections. COL Traub, chief of the planning division within the ETO transportation section, wrote in his portion of the official history of the service that operational planning within SOS virtually ceased from Torch to the formation of the ADSEC in February 1944; only the transportation corps with a small group of five officers continued to work with their British counterparts on Roundup.¹² This is neither fair nor completely accurate, but it echoes a similar sentiment expressed by LTC Osmanski and even by the internal report submitted by COMZ after the war. Very few among SOS staff were focused on detailed planning for Roundup, and therefore they did not have the time or passion to learn everything they could about relevant lessons emerging from the Mediterranean and other theaters.

¹¹ SOS C&S Notes, 16 Aug 43.

¹² COL Hugh A. Murril and COL D.W. Traub "Control and Planning Division", History of the Transportation Section, ETOUSA, 1942-1945. RG 498, UD 1210, Box 5981, 2. Traub's three pages are appended to Murril's much longer report.

| Year and Month | Arrivals * | | End of Month Strength | | | | |
|----------------|------------|------------------------|-----------------------|---------------|------------|--------------------|-----------------|
| | Monthly | Cumulative from Jan 42 | Total | Ground Forces | Air Forces | Services of Supply | Hq ETO and Misc |
| 1943 | | | | | | | |
| August..... | 41,681 | 424,098 | 278,742 | 39,934 | 152,548 | 79,898 | 6,362 |
| September..... | 81,116 | 505,214 | 361,794 | 62,583 | 168,999 | 120,148 | 10,064 |
| October..... | 105,557 | 610,771 | 466,562 | 116,665 | 200,287 | 148,446 | 1,164 |
| November..... | 173,860 | 784,631 | 637,521 | 197,677 | 247,052 | 191,208 | 1,584 |
| December..... | 133,716 | 918,347 | 773,753 | 265,325 | 286,264 | 220,192 | 1,972 |
| 1944 | | | | | | | |
| January..... | 166,405 | 1,084,752 | 937,308 | 343,972 | 317,227 | 273,294 | 2,815 |
| February..... | 136,684 | 1,221,436 | 1,084,057 | 442,474 | 338,317 | 299,710 | 3,556 |
| March..... | 124,412 | 1,345,848 | 1,199,077 | 488,379 | 375,152 | 325,577 | 9,969 |
| April..... | 216,699 | 1,562,547 | 1,422,276 | 599,425 | 410,562 | 391,994 | 20,295 |
| May..... | 108,463 | 1,671,010 | 1,526,965 | 620,504 | 426,819 | 459,511 | 20,131 |

* By ship. Excludes movements by air.

Source: Troop arrivals data obtained from ETO TC Monthly Progress Rpt, 30 Jun 44, ETO Adm 451 TC Rpts. Troop strength data obtained from Progress Rpts, Progress Div, SOS, 4 Oct 43, ETO Adm 345 Troops, and from Progress Rpts, Statistical Sec, SOS, ETO Adm 421-29. These ETO strength data were preliminary, unaudited figures for command purposes and, while differing slightly from the audited WD AG strengths, have been used throughout this volume because of the subdivision into air, ground, and service troops. This breakdown is unavailable in WD AG reports.

TABLE 6—CARGO FLOW TO THE UNITED KINGDOM: NOVEMBER 1943—JULY 1944

| Year and Month | Monthly Shipments (Measurement Tons) | Received | | | |
|----------------|--------------------------------------|------------------|------------------------|-----------|------------------------|
| | | Measurement Tons | | Long Tons | |
| | | Monthly | Cumulative from Jan 42 | Monthly | Cumulative from Jan 42 |
| 1943 | | | | | |
| November..... | 848,054 | 790,754 | 6,935,640 | 322,757 | 2,838,095 |
| December..... | 910,482 | 1,008,150 | 7,943,790 | 378,078 | 3,216,173 |
| 1944 | | | | | |
| January..... | 982,738 | 886,359 | 8,830,149 | 281,588 | 3,497,761 |
| February..... | 1,170,235 | 815,948 | 9,646,097 | 233,722 | 3,731,483 |
| March..... | 1,370,183 | 1,443,248 | 11,089,345 | 467,824 | 4,199,307 |
| April..... | 1,637,690 | 1,478,651 | 12,567,996 | 496,384 | 4,695,691 |
| May..... | 2,003,987 | 1,482,294 | 14,050,290 | 601,615 | 5,297,306 |
| June..... | 1,815,145 | 1,609,569 | * 15,585,161 | 635,866 | 5,933,172 |
| July..... | 1,912,878 | 2,092,771 | * 17,047,606 | 541,223 | 6,474,395 |

* Cumulative totals adjusted in source report with no indication of months in which corrections are applicable.

Source: Shipment data from [Richard M. Leighton] Problem of Troop and Cargo Flow in Preparing the European Invasion, 1943-44, prep in Hist Sec, Control Div, ASF, 1945, MS, p. 154. OCMH. Receipt data from ETO TC Monthly Progress

Figure 4.1: Troop and tonnage flow to the U.K. during the peak of Bolero¹³

SOS priorities during the summer and fall of 1943 can be explained by the increase of the work load associated with Bolero and the simultaneous renewed focus on planning for Overlord.

¹³ Ruppenthal, Vol I, 232 and 237.

The number of soldiers arriving monthly doubled from August to September 1943 and had quadrupled by November. Receiving and billeting soldiers continued to be a significant task for COMZ and U.K. Base Section until troop convoys could be sent directly to France with the opening of Cherbourg. The tonnage of cargo arriving monthly exploded from 87,000 tons in May 1943 to 350,000 tons the following month, gradually climbing to almost a million tons in October.¹⁴ SOS received and dispersed more troops and equipment between January and June 1944 than it had handled in the first eighteen months of its existence combined. This flood of men and supplies was rushed to the U.K. at what could realistically be described as the last minute. Because these last-minute arrivals included the engineers and material necessary to build the billets and warehouses required, there was a mad scramble to find alternative facilities. On 22 July 1943 Lee had written directly to the Secretary of War to point out that the command was 100,000 men behind schedule in what was needed to support a troop basis of 1.1 million men.¹⁵ The critical shortage was in construction engineers, men needed to build the facilities for follow-on units. As a result, Lee reported that he had no choice but to lower standards on the quantity and quality of covered storage, hospitals, and airfields. The appeal worked; Stimson directed that the next troop convoy headed to the U.K. replace 12,700 Canadians with service troops for SOS. The real point is that SOS was living hand-to-mouth during the summer of 1943, and it took Lee's constant attention and intervention at the highest levels to secure the resources necessary to make Bolero happen.

As a result of the work associated with integrating arrivals, managing PROCO, and trying to get the troop basis finalized, Cheltenham remained the center of gravity of SOS activity in

¹⁴ Bykofsky and Larson, 104.

¹⁵ Lee to Stimson, 22 Jul 43. RG 489, UD 578, Box 3854, ADM 345 – Troop Basis.

1943 and up to August in 1944.¹⁶ The London headquarters found itself doing a lot of non-operational work – revising and executing Key Plans, conducting routine correspondence with the War Department, operating the Joint Q Planning Course, and facilitating traffic between ETOUSA and the primary staff out at Cheltenham. New projects continued to emerge, many associated with skills and capabilities that would be essential in France. General Saylor, the chief of ordnance, established an assembly line for crated vehicles in August, and he began work on developing mobile-tire retread stations at the same time. In November his priority shifted to a massive armor modification project involving every Sherman tank, 3-inch self-propelled gun, and halftrack in theater or projected to arrive over the next three months. By mid-month his shops were processing 120 armored vehicles a week, but that rate would have to be doubled to complete the project before May. Saylor and his peers tried to manage this workload while absorbing a mandated 20% cut to the troop basis for all technical service announced in November.

In hindsight, it is difficult to determine SOS's priorities from July to December 1943 based upon the transcripts from the weekly command and staff meeting. The range of topics, tasks, challenges, and procedural questions dealt with on a monthly basis was staggering. Often the work was not glamorous. The command spent as much time talking about reducing venereal disease and about increasing the percentage of pay put in long-term savings as anything else. The perceived requirement to segregate Negro troops, WACs, and officers and enlisted in

¹⁶ Lee attended almost every weekly command and staff [NOUN] held at Cheltenham from July 1943 to August 1944; Ross made only about 25% of the meetings, and the other service chiefs with major planning responsibilities averaged appearing in person about 66% of the time. If a service chief was absent, it was typically because he was working with ETOUSA or COSSAC in London. Until July 43 Lee frequently left Cheltenham to inspect units across SOS, but after his appointment as theater G-4 he delegated this responsibility to BG Weaver. This was supposedly to allow Lee to spend more time in London, but the arrival and assignment of Crawford to working with ETOUSA made this less critical.

billets, mess halls, and hospitals complicated the mission. Lee spent a lot of his time trying to improve adherence to standards of personal appearance and other outward manifestations of unit discipline. In hindsight Lee's attention seemed to have been focused on banalities, but this is unfair. Lee tried to build the systems necessary to keep routine matters running routinely, from scratch, in a country where the U.S. Army had to conform to a number of British conventions. Building and running garrison facilities and linking them with a distribution network is not exhilarating work, but if SOS had failed at this fundamental task everyone else would have suffered.

It was probably unrealistic to expect a theater SOS to execute Bolero, inform the service unit portion of the troop basis, and develop the joint concept of support for Overlord. General Lee did everything in his power to try to build an organization committed to learning from the experiences of others. As hard as it may seem based on his reputation today, Lee welcomed frank feedback and demanded that his people challenge incorrect information. SOS found itself consumed with executing Bolero at the same time when they needed to shift significant resources to Overlord, and their reputation suffered when they prioritized running COMZ over planning future operations. Lee was not helped by the lackluster ASF lessons program, stale capstone doctrine on logistics, and unenlightened personnel rotation policies between ETOUSA, NATOUSA, and the ASF. In the end, the one valid criticism of Lee and SOS is that, despite generous resourcing with senior officers, they failed to create a subordinate organization solely committed to operational planning and then to optimize that organization to function in France rather than the U.K.

Training the Service Troops

One of the most significant tasks that consumed much of SOS's effort in 1942 and 1943 was individual and collective training. Lee was forced to accept partly-trained units and individuals in 1942 in order to accomplish the mission, a problem that would reoccur periodically through the summer of 1944. One advantage that SOS had over the air and ground components of ETOUSA was that, unlike combat units, sustainment organizations did not require active combat to practice essential skills, learn from the experience, and develop into an effective body. During their two years in Britain, SOS had the opportunity to practice almost every skill that would be essential to sustain the effort in France. Senior staffs needed time to figure out how to operate under conditions in the U.K. and to flesh out detailed procedures and techniques that were not provided in Allied doctrine. A lack of practical experience with modern conditions throughout SOS made it harder to identify and correct mistakes in training, education, and doctrine. Almost no one on SOS staff had planned or supported an amphibious assault or deep mobile warfare before Torch, and very few in the command were directly involved with that operation. Building and running an effective organization in the United Kingdom was a tall order, but that alone was not enough. Lee's challenge was to anticipate the conditions under which the command would be forced to operate in France as well.

In an environment in which resources were limited, Lee would be under a lot of pressure to be efficient, and he met with skepticism when he argued that the command needed to prepare for combat and be resourced accordingly. To get ready for operations in France, the command needed the time, people, and redundant capabilities available for training. But personnel remained in short supply until the summer of 1943, and service units presented a challenge right up to D-Day. Even if SOS had tried to train to the conditions they would face in France, they did

not have the personnel to practice high-level staff coordination until late summer of 1943 and to engage in mixed-service collective training until the fall. Lee prioritized training and put a lot of resources into programs designed to improve individual and collective skills, but SOS tended to do better with small-scale units and individuals at the expense of the collective tasks critical to SOS and base section success in combat. SOS, like the rest of the U.S. Army, lacked the techniques to execute effective collective training at an operational level.¹⁷ They fell into the trap of believing that if they could conduct routine garrison operations, the same skills and procedures would see them through in combat.

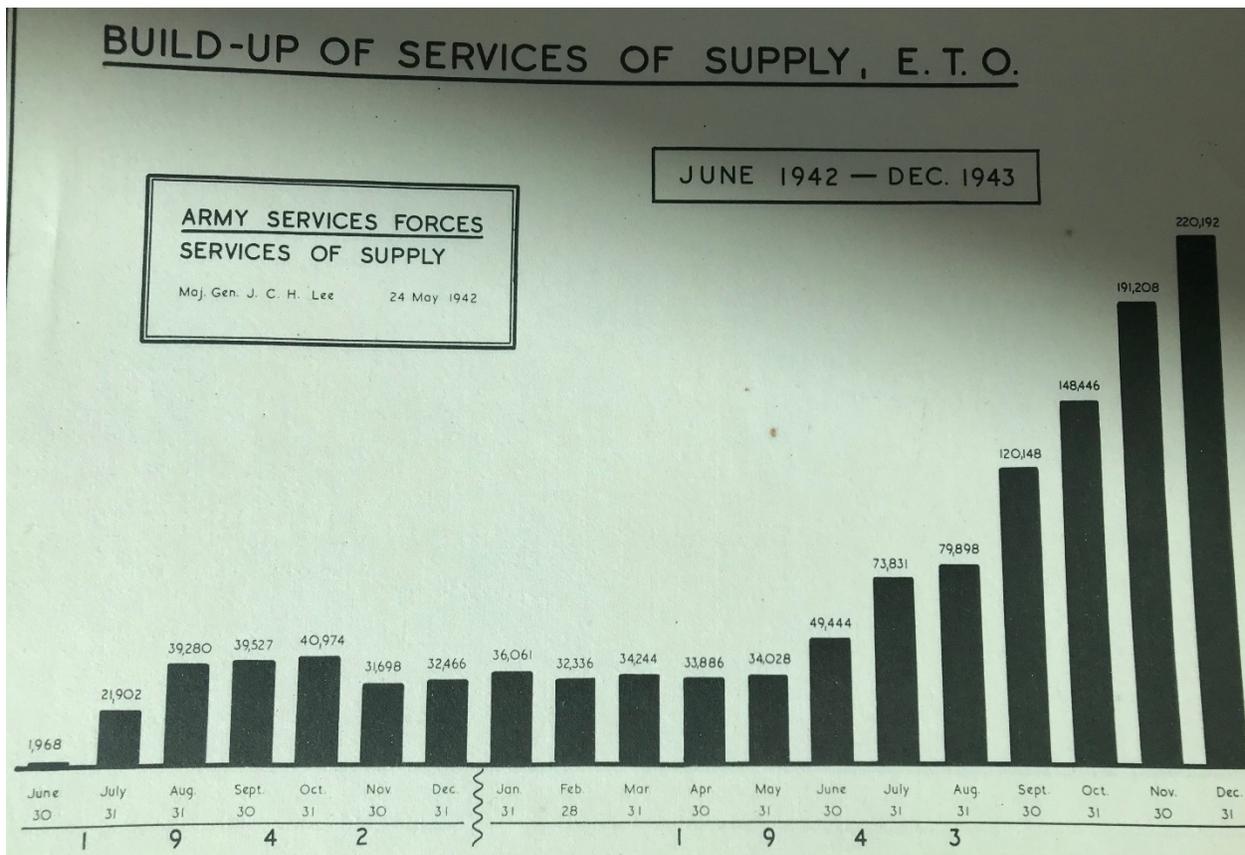


Figure 4.2: Personnel strength of SOS in the U.K. through Dec 43

¹⁷ The U.S. Army did not frequently conduct what the German Army called wargames or map exercises in its overseas commands. The Americans conducted large-scale maneuvers before the war and held full force rehearsals at the corps level in Great Britain in the spring of 1944 that helped train the Southern Base Section and the OCOT. Replicating the volume of work and frantic pace of operations that would confront the COMZ in August and September was beyond the training capabilities of the U.S. Army at the time.

SOS labored under a manpower crunch for most of its time in Great Britain, due to a lack of either numbers or skills or else a combination of the two. Lee was forced to take whatever service troops were offered during his first year in command, and he consistently waived their basic-training requirements to get them to Britain as quickly as possible. The average technical service soldier reached ETOUSA having completed only three to thirteen weeks of training in the United States.¹⁸ During the first six months of its existence, SOS prioritized on-the-job training aimed at the technical skills of the soldier's MOS. Secondary concerns such as field-craft and basic self- and unit-defense would have to wait.¹⁹ Confronted by a majority of service troops who did not have the skills necessary to accomplish their primary job, SOS leaders knew they would have to develop a system to fix these training shortfalls. Trainers, teaching material, classrooms, and dedicated periods for instruction had to be resourced and coordinated internally. This effort was also required at theater and base section headquarters, general depots, and any ad hoc collection of support troops from more than one service.²⁰

To help with these requirements, SOS and ETOUSA worked together to stand up the American School Center in Shrivenham, a small town located between Cheltenham and London, in late 1942. This school ran an officer candidate course and the Supply Specialists School, which trained students in subjects such as firefighting, vehicle maintenance and repair, operation

¹⁸ General Board 128, 31. The U.S. Army believed six weeks was the minimum time required to prepare a civilian to function as a basic soldier prior to moving on to MOS-specific training. The goal for phase two was another eleven weeks, or about 17 weeks in total. During various manpower crises, basic training might be shortened to as little as eight weeks. See *The Procurement and Training of Ground Combat Troops* by Robert R. Palmer, Bell I. Wiley, and William R. Keast. The topic is not addressed in any detail in *The Organization and Role of Army Service Forces*, but the Technical Services series cited various service timelines for basic and specialty training similar to the goals maintained by the AGF.

¹⁹ Ibid, 32. The report shows a strange preoccupation with basic combat skills among service troops, a skill set they were not called upon to use in Europe, or a shortcoming that negatively impacted Allied operations there.

²⁰ Ibid, 32. This was required in combined-service organizations because each service taught slightly different methods, and combined doctrine did not explain how to mesh these various techniques together in larger or more diverse organizations.

of radio equipment, mess management, and unit administration.²¹ Both schools were discontinued or repurposed after about a year of classes. Thousands of new officers and specialists were trained, and others developed a secondary skill beside their designated military occupation specialty. Beyond the formal school system, retraining at the unit level was a continual process, as new units and replacements arrived from the United States, and improved procedures were disseminated by the ASF or shared among the active theater support commands. The flood of new soldiers who started arriving during the second half of 1943 were much better trained than the first wave of troops assigned to SOS, reducing the demand for remedial technical training upon arrival.²² But the manpower crisis at the end of 1943 drove the pendulum in the other direction in the spring of 1944 when the ASF had to shorten the training courses and lower the standards for medical, truck, and port-operating units headed to ETOUSA.²³

Training was an immediate priority for General Lee once SOS had weathered the chaos associated with standing up the command in the U.K. and deploying the Central and Eastern Task Forces. In the first few days of November 1942 the command published its first training guidance and then devoted half of the command and staff meeting on 9 November to discussing the topic. The command did not emphasize service technical training; Lee acknowledged that chiefs of service would supplement the skills learned during basic training or carried over from the civilian sector. He emphasized basic soldier skills such as marching, saluting, and how to properly wear a uniform, subjects that had evidently been shortchanged during basic training. Based on Lee's comments at this meeting, base section commanders and primary staff officers

²¹ Ruppenthal, Vol I, 336.

²² Comments of COL Plank, Eastern Base Section Commander, SOS C&S Notes, 9 Aug. Plank was talking about construction engineers recently assigned to his command. BG Rumbough, ETO Chief of Signal Corps, SOS C&S Notes, 30 Aug 43.

²³ Memo, 15 Apr 44, RG 160, Dir of P&O, File 73 (Troop Basis), Box 6, NARA 2.

might have concluded that unit level retraining needed to focus on the inspection of uniforms, living areas, camp security, and mess hall management.

Lee claimed that he was reaching for deeper objectives by emphasizing basic soldier tasks and enforcing discipline. First, his argument went, you had to convince draftees performing civilian labor in the U.K. that they were soldiers performing essential duties that would help win the war. You had to teach them how to *look* and *act* like soldiers before they would believe they *were* soldiers; and, by trying to achieve these goals, young NCOs and officers had to learn, teach, and enforce standards. Second, you needed to inculcate an intuitive commitment to frugality while maintaining the idea that you might pick up and move to a new duty location at a moment's notice. This would demonstrate good stewardship of resources, reduce wear and tear on British facilities, and remind the men that victory lay in France and Germany and not the United Kingdom. It is hard to judge if this was all a cover story to justify Lee's personal preferences when it came to outward appearances, but he always explained the underlying principles behind his focus on neatness.

More disturbing was an early emphasis on defense of fixed sites against air and ground attack. By November 1942 the idea of a ground attack against a U.S. installation in the United Kingdom was ridiculous, and SOS had no resources with which to detect or defend against air attack. If these tasks had been explained as skills that would be necessary once the command had shifted to the continent, they would have made perfect sense and could have been judged a logical use of available time. But Lee framed the air and ground threat as ever-present in Great Britain, and he demanded the completion of thorough plans for base defense over the winter of 1942/1943. One wonders how well soldiers were motivated to practice base defense after parachutists, infiltrators, and saboteurs failed to materialize month after month. It was also

surprising that Lee provided so much detail on the individual and common tasks he wanted soldiers to cover, yet he had practically nothing to say about the technical skills the command needed to work on or about how to conduct the coordination he anticipated would be required for success in combat.²⁴ Later developments suggested that Lee trusted his service chiefs to figure out how to improve technical skills, but the command never figured out how to conduct exercises to practice coordination and synchronization at the base section and SOS headquarters.

Leaders within ETOUSA understood that they needed to train inexperienced personnel and units while working out systems that would function not only in Britain but also under combat conditions in France. General Ross, the ETO chief of transportation, asked for engines and flatcars for his men to use in Great Britain. The Americans would use them to execute Bolero; then they would turn around and ship them to France to reconstitute a working rail system there.²⁵ Ross also insisted that U.S. soldiers help operate, maintain, and control rail distribution in the U.K. despite initial British resistance to the idea. During the first eighteen months of Bolero the British tried to rely exclusively on rail to distribute American cargo inland, but the accelerating pace of deployment eroded resistance to motor transport during the fall of 1943. The Allies had not wanted to rely on trucks to deliver supplies inland because of concerns for the safety of civilians on the crowded and narrow British roads, but the surge of U.S. men and material during the first half of 1944 forced a reassessment. Ross started using trucks to help disperse the flood of American units and equipment; the added benefit was extra driver training for the truck companies and more experience coordinating movements in the transportation

²⁴ In all fairness, in November 1942 there was no officer on active service in the U.S. Army with a practical understanding of how to run a zone of communications in combat. As an engineer, Lee was not a master of how requisition and distribution were supposed to work at the tactical level, much less at the scale of a theater of war. Experts would emerge from North Africa, the Mediterranean, the Pacific, and the CBI over the next year to eighteen months.

²⁵ Ruppenthal, Vol I, 150. General Board 128, 7.

offices. Between October 1943 and May 1944 U.S. trucks moved 1.1 million long tons, or a third of the total cargo delivered during this period, from the ports to the depots.²⁶ As an added benefit, U.S. drivers gained experience working on narrow and congested roads in bad weather, and U.S. truck units practiced large-scale traffic control procedures.

Throughout the months leading up to the invasion of France, SOS needed to train and integrate labor from a wide range of sources. By late 1943 it was estimated that 80,000 British civilians and military personnel were working alongside SOS. Lee was also allocated general support labor, men above and beyond the command's authorized strength, who could come from any MOS or organization, triggering the need for another round of on-the-job training. By 1 March 1943 these surplus personnel numbered 1,905 officers, 149 warrant officers, and 5,942 enlisted men, amounting to almost 90% of manpower above authorization allocated to ETOUSA.²⁷ They were eventually joined by 7,800 labor troops provided by the new Italian government; these troops tended to be relatively well trained and often included experienced veterans, but they were restricted to serving only in the British Isles. Although British civilians, Italian POWs, and borrowed manpower helped SOS accomplish its mission, borrowing manpower was a flawed compromise because these men and women could not accompany the command to France.²⁸ When SOS deployed to the continent, they left behind almost 100,000 trained personnel who had to be replaced by soldiers unfamiliar with the tasks they had to shoulder.

Lee deserves recognition for helping to establish a new course designed to redress a significant gap in planning among Allied logistics officers that became apparent during the

²⁶ Ruppenthal, Vol I, 152.

²⁷ General Board, 128, 33.

²⁸ There was also a legal opinion that using enemy prisoners of war to directly support the Allied war effort violated the Hague Conventions.

preparations for Torch. Ruppenthal addressed the Joint Q School at some length in Volume I of *Logistical Support of the Armies*, but he was a bit too diplomatic in explaining why Lee wanted to establish the course.²⁹ The idea for this course, which was suggested by British Quartermaster General LTG Riddell-Webster, endorsed by Lee, and passed along to the ETOUSA commander.³⁰ Eisenhower approved this recommendation without comment, but what was more impressive was General Lee's personal commitment to this project over the next year. He assigned COL George A. Lincoln as the first U.S. co-director. Lincoln was a Rhodes Scholar and, until recently, a professor of economics and government at West Point.³¹ Lee recognized that the course needed to have a combined and joint faculty and student body, and he followed up to secure the right instructors and applicants himself. Before the trial run of the course, Lee wrote a private letter to the VIII Bomber Command CG explaining that he would reserve two of the fifteen U.S. slots for Air Force personnel and hoped they would exploit this recurring opportunity. Lee encouraged his own staff to attend the course and reinforced that message when he publicly praised his Inspector General for doing so in the fall of 1943. When Lincoln was transferred to work for Marshall in April 1943, Lee appointed Colonel Royal B. Lord, his chief of operations, as his replacement.³² The school eventually occupied two buildings with on-site billeting and dining capabilities, and it had eight faculty members, with an administrative

²⁹ Ruppenthal, Vol I, 337-338.

³⁰ Letter, Lee to Eisenhower, 7 Oct 42. Endorsement of a British offer to establish a joint-combined logistics planning course and enlarge the concept by offering to add Americans to the faculty. RG 498, UD 578, Box 3818, ADM 181, NARA II

³¹ Ibid.

³² Letter, Lee to Lord, 8 May 43. The letter appointed Lord as the U.S. director of the Joint Q School, explained the mission and purpose of the course, and elaborated on Lord's duties as the U.S. director. When not working at the school, Lord remained the chief of operations for the London-based portion of SOS staff. When Lord moved up to become the chief of staff for SOS, he was replaced by Stratton in late November 1943.

and support staff of approximately 50 U.S. personnel.³³ During the school's one-year existence, classes were conducted monthly, and the class size grew from 30 to 70 officers. The U.S. Army had 470 graduates, the British 492. Most of the students came from SOS, the technical services, V and VII Corps, FUSA and FUSAG, SHAEF, and the 8th Air Force.³⁴ The only organization that seemed to be underrepresented in the fourteen class cycles was the headquarters of ETOUSA.³⁵

The rank and experience of the instructors at the school were impressive. The key British instructors were a brigadier and lieutenant colonel from Q Branch joined by a host of expert guest lecturers.³⁶ The British colonel assigned as the principal LNO to SOS was assigned additional duty with the faculty at the Q Course. The school director attempted to bring in outside lecturers with recent operational experience to maintain currency and to help keep students' attention.³⁷ Lee asked for the permanent assignment of a naval officer and for a representative from ETOUSA in January 1943 as the course evolved beyond its original scope.³⁸

In its final version, the Joint Q Planning Course was a twelve-day event divided into three major parts. The first two days were committed to a detailed orientation of both militaries, including air and naval assets, combat and support unit composition, and the structure of the

³³ Orientation Letter for COL Stratton, 14 Dec 43. This letter was written by the school staff to bring Stratton up to speed on the course and its history. Stratton took over in the middle of what proved to be the last standard class. There was a final class in January 1944 dedicated exclusively to SHAEF, which sent about 50 officers to the course.

³⁴ "Roster of U.S. Attendees from Jan 43 to Jan 44 Sorted by Major Command." RG 498, UD 578, Box 3818, ADM 181, NARA II.

³⁵ It is possible that some officers credited to the technical services were actually working at ETOUSA.

³⁶ Copy of the schedule, curriculum, syllabus, and reference material, first Joint Q Planning Course, Jan 43. RG 498, UD 458, Box 3818, ADM 181, NARA II. In this first iteration, many topics were covered by LTCs, COLs, and BGs.

³⁷ Letter assigning Stratton as the U.S. director of the school, Nov 43. The statement implies that one of Stratton's key responsibilities is to find these experts and enlist their aid.

³⁸ Letter Lee to Eisenhower, 4 Jan 43. In this same letter Lee informed Eisenhower that the location of the course was shifting from Camberley to Norfolk House, to make it easier on the faculty, guest lectures, and majority of the students.

senior headquarters of both militaries in the U.K. The second part of the program explained doctrine, technique, and best practices associated with amphibious assault operations. There was special emphasis on mounting the assault force, planning logistical support, and organization of the beach area for the build-up phase. The last phase, lasting approximately five days, saw the class prepare a number of staff estimates and plans to cover all aspects of an expeditionary operation at the task-force level.³⁹ Lee pointed out that one goal of the school from its inception had been to study certain aspects of amphibious operations in isolation, work out the best methods of solving problems noted in the Mediterranean, and to feed techniques back out to COSSAC and the operating forces. One repercussion of the strict focus on the assault landing phase of amphibious operations was that very little time was available to discuss what the course referred to as the maintenance project for the second phase. This block was allocated two hours of the eleven-day schedule.⁴⁰ This made sense, and it spoke to fierce prioritization enforced by the co-directors. The course was designed to train amphibious planners in the nuts and bolts of loading, unloading, and sustaining a task force overseas, not to prepare them to replace a base sector or COMZ command. The Joint Q planning course was, by all accounts an excellent program that helped train almost 1,000 operational planners for many of the critical tasks faced by SHAEF between April and July 1944.

³⁹ This task force included a naval component of combatant and landing ships, air units, and multiple brigades and divisions of ground elements with follow-on sustainment forces.

⁴⁰ This decision was perfectly logical. The Joint Q Course was designed to address the shortcomings observed during planning for Torch. Once ground forces were ashore, larger standing organizations would take over the sustainment mission. It was assumed that corps, armies, and theater commands knew how to organize and run logistics, and nothing from the experience in North Africa suggested the Allies had anything other than a prioritization dilemma.

Office of the Chief of Transportation, ETOUSA

SOS, COMZ, and ETOUSA were well served by the theater office of the chief of transportation (OCOT) led by MG Frank S. Ross. Lee and Devers not only had the foresight to build their own transportation section modeled on the new Transportation Service; they went one step further. In the summer of 1943 authority over motor transport was shifted from Littlejohn to Ross, who immediately established a motor transport service and later formed additional units designed to synchronize truck support for COMZ and field armies. Ross created a professional team that contributed significantly to the planning effort for Overlord and integrated air, truck, rail, sea, and inland waterway transportation on the continent. Maximizing the lessons learned during his two-month experience as the AFHQ chief of transportation, Ross created a capable organization that anticipated the skill sets, subordinate organizations, and resources needed to sustain a drive to the Rhine. The U.S. Army's failure to follow up on Ross' recommendations to reorganize COMZ and outfit it with an adequate force of heavy trucks to support the breakout from Normandy had far-reaching consequences. One could argue that the Allies failed to reach the Rhine River in September 1944 largely because they lacked the heavy trucks that had been requested by the OCOT thirteen months earlier.

The decision to organize a transportation service in the United Kingdom predated the intent to form ETOUSA and its SOS. Responding to a British request for U.S. help, the War Department informed MG Chaney on 22 April that COL Frank Ross and four assistants would be dispatched to form the core of a transportation office.⁴¹ Ross had been working in the WD G-4 transportation branch for the previous four years and had just received orders transferring him

⁴¹ Bykofsky and Larson, 74 and note 13. Chaney asked that the number be increased to Ross plus twelve assistants against an end strength of fifty to sixty officers necessary to manage movements related to Bolero.

to command of a medium-tank regiment in the 10th Armored Division. He had never served outside the Infantry Branch prior to his four-year assignment in the WD G-4, having joined the Texas National Guard in 1916, advancing from private to 1SG in less than a year, and then receiving a direct commission into the infantry in 1917.⁴² Ross reached France in October 1918 but did not see combat. Between the two wars Ross served in the Philippines, headed the ROTC detachment at North Dakota State, commanded a medium-tank company at Fort Benning, and attended both CGSC and the Army War College.

Ross and his small team linked up with Lee and the rest of SOS staff during their orientation period in Washington, traveled together by plane, and reached London on 12 May 1942. Initially the transportation section was limited to overseeing rail and maritime movement; motor transport was largely a quartermaster function with vehicle maintenance handled by the ordnance corps. When SOS moved out to Cheltenham in July 1942, Ross split his office in half, leaving a team in London to work with the British on Bolero and to support early Torch planning. In mid-August he decided his entire section was more useful in the city and he consolidated his people at the Selfridges' Annex, less than a mile northwest of AFHQ headquarters at Norfolk House and two blocks from ETOUSA.⁴³ Ross frequently attended Gale's daily CAO coordination meeting from August to late October, and he served in Algiers from 11 November 1942 to 26 January 1943 when he was replaced by his deputy from ETOUSA, COL George Stewart. Upon his return to London, Ross expanded the ETOUSA transportation service staff from three to seven divisions by breaking the motor, rail, and

⁴² Irwin Ross, "Ross of ETO," *Army Transportation Journal* 1, no. 3 (April 1945): 35.

⁴³ Bykofsky and Larson, 79.

maritime components of operations into their own divisions and adding movement coordination and supply divisions.⁴⁴

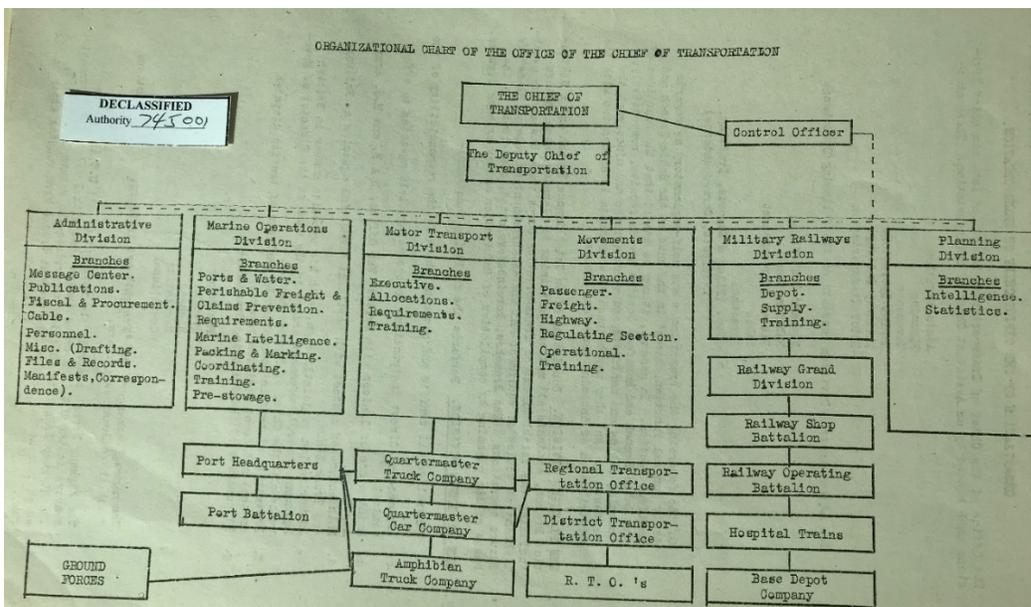


Figure 4.3: Organization of the Chief of Transportation, ETOUSA, Oct 43

Ross felt plagued by a lack of qualified personnel during the first half of 1943 and decided he would have to do something internally to address technical shortcomings among transportation organizations.⁴⁵ Ross decided to open his own technical school modeled on the Joint Q Planning Course to retrain officers and enlisted men. Located at Avonmouth near Bristol, the first five-and-a-half-day course was launched on 1 August. Ross's commitment to the program was clear; he devoted three hours of his own time during each course to give two presentations, and he ensured that each of his division leaders explained his role in person to the class.⁴⁶ This training was aimed at company grade officers and young NCOs within the U.S. transportation network working in the U.K. It was designed to explain in detail how the U.S.

⁴⁴ Bykofsky and Larson, 79-80. Administration and planning were the last two divisions. This was the structure Ross maintained for the rest of the war.

⁴⁵ Bykofsky and Larson, 84.

⁴⁶ Course Outline, TC Training School, Movement, 24 Oct 43. RG 498, UD 578, Box 3854, ADM 348.

structure was organized from the OCOT down to base, region, district, and Railway Traffic Offices (RTOs) and then how that American structure meshed with its British counterparts. The course was designed to make transportation personnel comfortable with rail, port, and motor operations and movement control under administrative and combat conditions. Teaching material provided a set of common references, terms, and the appropriate points of contact within each branch and division in the transportation section on the theater staff. Graduates would not have expert command of the process, but they would understand how the system worked and where to turn for help. Although almost all the material was taught in the context of how to operate in the U.K., most of the concepts and procedures were just as valid in a combat zone. Questioned about the training after the war, Ross claimed it produced excellent results.⁴⁷

One of Ross' first initiatives upon reaching the U.K. was the activation of a motor transport service within his office under LTC Gustave A. Vogel. During the first year of its existence Vogel's division had no authority and very little to do, acting as a liaison between the ordnance and quartermaster sections to improve training, procurement of repair parts, and assess the quality of equipment in truck units.⁴⁸ But the importance of this division grew rapidly when SOS transferred responsibility for all motor transportation from the Quartermaster Service to the Transportation Service in July 1943. LTC Loren A. Ayers acted as the first MT division chief under this new arrangement. Ross tasked Ayers to produce two papers for the War Department that same month: an estimate of the trucks needed for operations in France, and a justification to form an element of motor transport that would be the equivalent of Railway Grand Divisions, which, when eventually established, was called Highway Transportation Divisions.⁴⁹ It was

⁴⁷ Bykofsky and Larson, 84.

⁴⁸ "Motor Transport Service", History of Transportation Service, ETOUSA, 1942-1945. RG 498, UD 1210, Box 5981, 1.

⁴⁹ *Ibid*, 3, 5.

obvious from these moves that Ross understood the major shortfall within the U.S. Army to be that insufficient resources were dedicated to maximizing the effectiveness of wheeled transportation.

Ayers completed both projects in the first half of August. His proposal for a provisional MTS headquarters was approved by Ross and passed along to the War Department on 8 August, followed five days later by a detailed estimate of truck assets needed to support the first ninety days of operations in France.⁵⁰ Ross and Ayers envisioned inserting a coordination agency between QM truck battalions assigned to COMZ and the base or theater transportation sections. The purpose of the organization was to coordinate closely with the combat echelon, be it an army or army group, to identify the most critical supplies of the moment. Once these priorities were confirmed, the HTD would figure out where those supplies were by working with COMZ staff, technical service sections, and base section leaders. Finally, the HTD would direct task-organized teams of service units to deliver those supplies to dumps located in the combat zone. This organization did not serve the same purpose as a truck regiment or the provisional brigade formed within SOS in May 1944, because the traffic division combined command with staff coordination and because it was designed to synchronize service troops from four to six services. Personnel would come from existing quartermaster group headquarters, augmented with functional experts from other units to form these 60-man elements.⁵¹ The War Department authorized ETOUSA to form one experimental headquarters with existing personnel, which they did in November 1943. The War Department did not acknowledge an Army-wide requirement for this organization, nor did it approve the recommended table of organization during the course

⁵⁰ Ibid, 3, 25.

⁵¹ "Recommended Organization and Function of a HQ, Motor Transport Service Division" 26 Jul 45. RG 498, UD 1210, Box 5981. This document was copy of the original T/O recommendation submitted in August 1943, prepared for inclusion in USFET General Board reports.

of the war in Europe.⁵² But because of the drive demonstrated by Ross, ETOUSA had an experienced motor transport section under COL Ayers and one motor transport brigade that was activated in early May available for Overlord. Highway transportation divisions would follow in the fall and winter of 1944 – 1945.

The provisional motor transport brigade (MTB) was established in early May under the command of COL Richmond and MSG Robert J. Logan and equipped with a small staff of ordnance personnel. Richmond would command all truck companies in Normandy working for the ADSEC and not directly assigned to 1st Army, but he had no formal authority over those units until everyone reached France.⁵³ As a result, Richmond could do nothing in May to better prepare his command for combat beyond train his small brigade staff. The official history of the ETOUSA motor transportation service noted that the MTB lacked the range of expertise required to perform its mission, and most truck companies still had received no formal training on how to maintain their heavy equipment as late as December 1944.⁵⁴ Coincidentally, the various full-force rehearsals conducted in the spring and the invasion mounting operation that consumed much of May proved to be excellent training for the truck companies, MTB, and OCOT. At one point in April and May a peak of 105 2.5-ton truck companies were shuttling men and equipment to their final marshalling areas, often forcing the MTS to conduct twenty-four-hour operations in foul weather. They did not realize it at the time, but it was excellent exposure to the challenges they would face in August.

⁵² ETOUSA eventually activated four closely associated provisional units: 6955th HHC, MTS and the 6956, 6977, and 6958 HHC, HTD. The Highway Transportation Divisions directly supported the three field armies of 12th AG while the MTS worked with 12th AG, the ADSEC, and COMZ headquarters.

⁵³ History of Transportation Service, 7.

⁵⁴ Ibid, 8.

General Ross and his subordinates in the Transportation Service tended to be a few steps ahead of SOS and better attuned to emerging priorities in ETOUSA and COSSAC. The transportation section anticipated requirements in a timely manner and then maintained pressure on the ASF to deliver them. Ross also recognized the need for teams to plan and control transportation that could be split off to support the ADSEC and FECZ. During the fall of 1943 Ross directed his deputy, COL Traub, to pull members from each division and organize an advanced section from the transportation office that would finalize planning for Overlord and would accompany the combat elements to Normandy.⁵⁵ The other divisions remained heavily involved in operational planning, but Traub understood that his team would be responsible for executing the plan and making changes on the fly. After the FECZ was formed in February 1944, Traub's staff was assigned to that headquarters and, working in tandem with the transportation section at the ADSEC, developed the transportation annex for Overlord. That same month Traub began coordinating his efforts with the 1st Army and with the ADSEC transportation office, which was eventually headed by COL George W. Beeler.⁵⁶ The ADSEC team shifted from Cheltenham and London to Bristol in March to join the 1st Army staff. Traub, Ayers, and Richmond represented Ross's interests on the continent until he reunited his service in mid-August. They would prove to be a capable team that overcame a host of obstacles, playing a large role in enabling the pursuit across France to almost pierce the Westwall.

⁵⁵ Bykofsky and Larson, 83, 234.

⁵⁶ Ibid, 235. This staff was composed of personnel transferred from the OCOT, 4th Port, and 3rd Group Regulating Station and placed under COL Sibley, the Mersey port commander. This transportation organization cycled through three officers-in-charge in less than a month. Beeler would be replaced by Traub in mid-July; the ADSEC transportation section was absorbed by Ross upon his arrival with the rest of the COMZ staff in mid-August.

Preparing for Overlord: The Troop Basis and Stockpiling of Material

In many ways, the first fundamental task for ETOUSA was to represent the United States in deliberations with the United Kingdom on the size and composition of Army forces that should be positioned in Great Britain for use in the war against Germany. Because the answer to that question depended on how exactly the combined bomber offensive and the amphibious invasion of France would be conducted, the process for reaching it was long, complicated, and frustrating. In a perfect world the Allies would have developed detailed operational plans for landing, securing a lodgment, and breaking out somewhere in France and then would have worked backwards from there. But this was an impossibility in the early spring of 1942. In a process we will examine in detail below, Allied planners agreed on very general goals centered on getting a million American soldiers to Great Britain in a twelve-month deployment window and working out the details later.

The entire process was riddled with variables beyond the planners' control. Without knowing exactly what equipment or specialized troops would be needed for success in the first stage of the invasion, ETOUSA started the planning process already on shaky ground. To reach the final goals of the deployment, the War Department needed to fill ships with men and cargo every month for nine to twelve months to deliver between 750,000 and a million men to the U.K. No one could wait for the publication of the final operational plan and still move the invasion force to the U.K. Training and production were just ramping up in the U.S., and no one could guarantee that a balanced force equipped with modern weapons would be ready for movement on a reliable schedule. Forecasting lift over twelve months' time was a crapshoot; losses to submarine attack, new construction, and competing priorities were impossible to predict in early 1942. The War Department would rely on USAFBI/ETOUSA, working with their British

counterparts, to determine if this flood of American equipment and men could be received and disbursed to bases and depots and to see what U.S. assistance would be required if the British could not disperse it by themselves.

Regardless of how well the Allies produced a flow of generic forces, the final scheme of maneuver, approved by the actual commanders of the operation, would eventually result in major changes to the troop basis. But this could not happen until the CCS agreed upon a concrete date, location, and scheme of maneuver for Roundup, a tortured process that featured prominently in the major Allied conferences and leader visits from June 1942 to August 1943. The first breakthrough was at Trident in May 1943, but a sense that planning for Roundup would take on a new intensity first emerged from Quadrant in August 1943. Although a positive development from the planning perspective, a fixed suspense for the landing hardly eliminated further major changes in the fundamental variables ETOUSA was trying to address. In January 1944 Montgomery and Eisenhower agreed to a major expansion of the scope of the initial amphibious and airborne assault and, as a result, a one-month delay to the invasion date. Anvil, the operation designed to liberate southern France and support Overlord, remained in flux until virtually the week of its execution.⁵⁷ Doubtlessly frustrated, ETOUSA had no choice but to work around these shifts in aspects of the plan and to do the best they could, fully realizing that any changes they might eventually make to production or deployment schedules would have no reliable concrete impact on operations unless they were made more than twelve to fifteen months prior to their desired effect.

⁵⁷ There were doubts if Anvil would occur at all. Once the Allies agreed to conduct the operation, the target date and exact landing locations changed as well.

It was easy to talk about 1.1 million men, or even to debate what percentage of that force should go to air, ground, and support forces. The tricky part was translating very large raw numbers into specific formations. How many infantry divisions, fighter wings, tank destroyer battalions, quartermaster truck companies, engineer special brigades, and transportation port operating battalions did ETOUSA need? The simple answer was that it depended on the campaign concept, but this was a delaying tactic the Allies could not afford to accept. ETOUSA had to be thinking nine to twelve months into the future; the longer they waited to get started, the longer it would be before they could stage Roundup. The Allies had to make their best guess as to what a balanced invasion force should look like and refine it as they went along.

Early benchmarks on the proper mix of the three major types of forces came from two very different but related procedures: a top-down and bottom-up approach. The top-down approach looked to historical precedent and the current composition of the U.S. Army to impose fixed percentages among the three types of forces.⁵⁸ The War Department drew up raw planning numbers in June 1942 to guide detailed planning by ETOUSA, basing the rough numbers on the composition of the AEF in 1918; the allocation of American manpower among the AGF, AAF, and ASF; and feedback from operations between 1939 and mid-1942.

| Type | Strength | Percentage | % Cbt/Serv |
|----------------|----------|------------|------------|
| AAF | 206,400 | 19.3 | |
| SOS | 279,145 | 26 | 32% |
| HQ | 4,000 | .4 | |
| 20 x Divisions | 278,473 | 26 | |

⁵⁸ Hypothetically, recent combat experience might have led to the conclusion that a theater needed more of one specific portion of the force than the Army could afford to provide based on competing global commitments. The desire for more truck companies to support Overlord was at least partially supported by recent operational experience, but this had to be balanced against similar requests from other theaters. The U.S. Army was large and well-equipped, but never large enough to make everyone happy. This realization hit the War Department hard in the fall of 1943.

| | | | |
|--------------------------|-----------|------|------|
| Ground Combat Spt Troops | 303,110 | 28.3 | |
| Divs + Gnd Spt | 581,583 | 54.3 | 68% |
| Total | 1,071,060 | 100% | 100% |

Table 4.1: WD strength projections for Bolero / Roundup, Jun 42⁵⁹

Someone at the War Department had decided that twenty U.S. divisions was an adequate number with which to launch Roundup in April 1943. Twenty divisions required a similar number of men in non-divisional combat and combat-related units to support them.⁶⁰ The AEF consisted of about 32% service troops in 1918; this was as good a number as any with which to start estimates of support needed for Roundup.⁶¹ The War Department judged this planning guidance sufficient for ETOUSA to turn around and complete a bottom-up assessment to validate or refine these numbers, and flesh them out into specific branches, services, and unit types. Eventually COSSAC and ETOUSA would understand the detailed tasks required to make Roundup a success, and the number of formations required to accomplish all those tasks. Working together, the War Department and ETOUSA would agree on a total number of men, divided into rough percentages by type, which would then be translated into divisions, supporting battalions and groups, wings, and service units deemed sufficient to execute the mission.

The process might sound simple, but reaching agreement on all of the variables involved proved to be practically impossible. COL Barker, the ETOUSA chief of plans, was quick to point out that the War Department was promising to deliver 35,000 more men by 1 April 1943

⁵⁹ Memo, Barker to AGWAR, "Troop Basis" 15 Jun 42. RG 498, UD 578, Box 3854, ADM 346. COL Barker was the USAFBI / ETOUSA chief of plans when he responded to this WD guidance.

⁶⁰ Such as independent tank and tank destroyer battalions, reconnaissance groups, artillery battalions, combat engineers, and AAA units. The U.S. Army divided these forces into combat and combat support clusters. Figuring out exact numbers is difficult because some branches or services had force structure that fit into two or even all three categories. The Corps of Engineers provides a good example.

⁶¹ Excluding the AAF, which contained organic support capacity and would operate at least partially from the U.K.

than the planners in London believed possible. He also pointed out that the plan did not account for a pool of combat-arms replacements; even as small a percentage as 5% of ground combat forces amounted to another 30,000 men. Barker acknowledged that he could not speculate about how more shipping might become available. Without more ships, however, the plan would have to eliminate 65,000 men from the projected invasion force. It was the opening salvo in a two-year process to try to reach consensus.

Torch and The Expansion Plan for the U.S. Army

One of the vital drivers of the deployment process was the availability of U.S. formations, and in early 1942 this consisted primarily of infantry divisions. As part of a deliberate plan of phased expansion, the War Department had only allocated 11.8% of its projected end strength for 1942 to the service forces, reserving the rest for ground and air units.⁶² Marshall prioritized combat units because they needed longer training cycles that included extensive collective exercises after basic and individual training. Furthermore, it was assumed within the War Plans Division that the U.S. Army would conduct few if any major offensive campaigns using anything beyond a half-dozen divisions before mid-1943. But the second assumption underlying this decision proved faulty and directly contributed to the distribution problem experienced in North Africa during the winter of 1942-1943. Allocation of manpower among the AGF, AAF, and ASF balanced out during the second half of 1942 and 1943, but there were never enough soldiers to meet all of the requirements.⁶³ As the Army came to grips with its

⁶² Ruppenthal, Vol I, 117.

⁶³ Kent R. Greenfield, Robert R. Palmer, and Bell I. Wiley, *The Organization of Ground Combat Troops* (Washington, D.C.: Historical Division, U.S. Army, 1947), unnumbered table between 160 and 161. By mid-1943 the ratio among combat, service, and air units was about 2:1:2, adjusting for service units organic to the AGF and deducting non-deployable strength in the U.S. Between the approved troop basis in November 1942 and that in July

manpower limitations by the fall of 1943, a ferocious internal battle began among the AAF, AGF, and ASF for prioritization. This in turn produced overwhelming pressure from the War Department on the ASF to figure out how to be more efficient and get by with fewer soldiers. The fundamental variables were almost impossible to change; all the ASF could do was prioritize some services or units over others or else make better use of Negro troops or the Women’s Army Corps (WACs).⁶⁴

| Type | Goal by End Sep 42 | % |
|-----------------|--------------------|------|
| HQ, SOS | 3,730 | 5 |
| Misc Admin | 3,547 | 5 |
| Eng | 29,479 | 40.3 |
| Med | 2530 | 3.4 |
| Motor Trans Sec | 13,210 | 18 |
| Ord | 1,692 | 2.3 |
| QM | 7,544 | 10.3 |
| Sig | 1,777 | 2.4 |
| Transportation | 8,854 | 12.1 |
| Chem Warfare | 681 | 1 |
| Total | 73,199 | |

Table 4.2: SOS personnel requests by service (submitted in early June)⁶⁵

| Service | Strength (Assign + atch) | Percentage (Asgn only) | Jun 42 Projection |
|---------|--------------------------|------------------------|-------------------|
| HQ | 2,765 | 6.7 | 5 |

1944, service troops as a percentage of AGF formations rose from 11 to 17%. Total Army strength peaked at seven million men.

⁶⁴ “Negro” was the orthodox term in the U.S. Army for African-American troops during the war. In the minutes of SOS command and staff meetings, African-Americans were referred to as “colored” troops by the participants.

⁶⁵ RG 498, UD 578, Box 3854, ADM 345, Troop Basis.

| | | | |
|-----------------------------|------------------------------|-------|-------|
| QM | 5,798 + 54 | 14* | 10.3 |
| Med | 3,581 + 515 | 8.7 | 3.4 |
| Eng | 12,755 + 9,014 | 31.6+ | 40.3 |
| Ord | 4,739 | 11.6* | 2.3 |
| Sig | 1,353 | 3.3 | 2.4 |
| CWS | 335 | .1 | 1 |
| Transpo | 4,555 | 11.1 | 30.1* |
| Misc | 5,093 + 1,742 | 12.4 | 5 |
| Sub-Total (assigned) | 40,974 (vs 73,199 requested) | | |
| Total (assigned + attached) | 52,299 | | |

Table 4.3: SOS strength 31 Oct 42⁶⁶

* The original troop request included a large motor transport service; the units that were deployed to meet those requirements consisted of QM truck companies and Ordnance repair units.

+ SOS request for engineers would have been met and possibly exceeded without the diversion of engineers to Torch

The first command that experienced the implication of these high-level decisions in the War Department about allocating manpower was ETOUSA, specifically, Lee's SOS. Lee emptied out Great Britain to provide as many service troops as possible to support the Central and Eastern Task Forces. Even so, these transfers were far from adequate to meet the requirements of the full U.S. force. As soon as the AFHQ and two task forces had deployed to North Africa, Lee began trying to build up a solid foundation of service troops in Great Britain to execute Bolero. SOS estimates called for a ground-to-air-to-support force ratio of 2:1:1, or 49%, 24%, and 27% respectively of the million men the United States anticipated sending to England to stage Roundup.⁶⁷ SOS estimated that it needed eight port battalions and three general service

⁶⁶ Progress Division, HQ SOS, 9 Nov 42. RG 498, UD 578, Box 3854, ADM 345, Troop Basis. The report was vague on what exactly "attached" meant, but one assumed that attached units were aligned against Torch and awaiting transportation.

⁶⁷ Ruppenthal, 117.

battalions by the end of September 1942 to keep pace with projected shipments during the rest of the year. They also needed 400 rail engines to help the British to move material from the ports to operating bases and depots in the interior of the country.⁶⁸ The strength of U.S. service troops in Great Britain was woefully inadequate to handle the first shipping surge during the summer of 1942. Only 2,000 men were on hand in June, rising to 21,000 in July, and topping out at 40,000 men before dropping off slightly at the beginning of October.⁶⁹ In light of these limited numbers of U.S. service personnel, it was unfair to blame SOS for the supply crisis triggered by the emergency cable sent in September 1942 from Everett Hughes calling for supplies. At the beginning of August Lee had about 21,000 men available for duty, and priority number one was to get the other 19,000 men who were arriving that month settled in, oriented on the mission in Great Britain, and ready to deploy to North Africa as appropriate. By the time Lee and SOS realized that thousands of tons of supplies needed for Torch had disappeared into British warehouses it was too late to go back and fix procedural problems that had caused the mess. It was the first of many undeserved blows to the reputation of SOS.

Either because he had been scarred by the experience in the fall or was frustrated with the lack of reinforcements that winter, Lee decided to be more proactive in securing personnel in 1943. He flew down for the Casablanca conference, judging it a good opportunity to see both Somervell and Eisenhower for the first time in months. Lee came away from Casablanca with a new conviction to secure service troops for ETOUSA, but also with an appreciation that the timeline for Roundup had probably shifted into 1944. He realized that in order to deploy a million men from the United States to Great Britain on a compressed timeline, U.S. forces would

⁶⁸ Ruppenthal, Vol I, 67.

⁶⁹ Ruppenthal, Vol I, 99.

have to help improve and then operate the British transportation network. That implied the construction of new bases, expansion of British infrastructure, and an injection of skilled and unskilled labor to help build and run this system. It would require men to unload ships, clear supplies from the docks, run depots, operate and maintain rail lines, and build and run airfields. Lee's first post-Casablanca troop estimate called for 358,000 men to support a total of 1.1 million U.S. personnel in the U.K., not including support units embedded at the army level and below.⁷⁰ This was the first ETOUSA estimate that cited numbers from the U.S. experience from World War One to justify a leap from 25 to 33% of the total available manpower. Lee's request was largely ignored because of what others considered more pressing needs in North Africa and a lack of serious commitment to Roundup during the first half of 1943.

The Impact of Trident and Quadrant on Roundup Planning, May to November 1943

| Force | Strength | % | Strength | % |
|--------|----------|------|----------|-------|
| Ground | 391,660 | 44% | 391,660 | 61.5% |
| Air | 250,691 | 28% | | |
| SOS | 245,584 | 28% | 245,584 | 38.5% |
| Total | 887,935 | 100% | 637,244 | 100% |

Table 4.4: Revised Roundup projections, May 43⁷¹

| Ground, by Branch/Service | | % | SOS, by Branch/Service | | % |
|---------------------------|--------|------|------------------------|-------|------|
| Anti-Aircraft Arty (AAA) | 59,000 | 14.7 | Eng | 51.7k | 22.3 |

⁷⁰ Ruppenthal, Vol I, 117. Lee and the ASF could argue that 33% of the total force was reasonable based upon the AEF experience. The problem was this dismissed the portion of service troops at the army level and below. Assuming support units made up 10 to 15% of the air and ground combat strength, the total strength of service troops started to edge towards 40 to 48% of ETOUSA manpower.

⁷¹ Letter, ETO to AGWAR, 1 May 43. RG 498, UD 587, Box 3857, ADM 369: SOS ETO Tentative Overall Plan – Book I, Manpower, Supplement 1. The total number and percentage by type was based on a projection on what could be moved to the UK by 1 April 1944 and would be required to conduct and support Roundup, excluding other forces already in the UK or moved there for other purposes.

| | | | | | |
|------------------------|---------|------|-----------------|-------|------|
| Ord | 14,751 | 3.7 | QM | 41.3k | 17.8 |
| Sig | 12,300 | 3.1 | Med | 43.2k | 18.7 |
| Eng | 36,100 | 9 | Sig | 7.7k | 3.3 |
| QM | 20,300 | 5.1 | Chem | 5.2k | 2.2 |
| Med | 22,200 | 5.5 | Ord | 36.8k | 15.9 |
| Chem War Service (CWS) | 6,700 | 1.7 | Trans | 23.0k | 10 |
| Total (Service) | 112,351 | 28 | Provost Marshal | 8.0k | 3.5 |
| Total (Cbt Spt - AAA) | 59,000 | 14.7 | HQ, SOS | 14.0k | 6 |
| Inf, Arm, TD, FA | 287,649 | 57.3 | Total | 231k | |
| Total | 400,000 | | | | |

Table 4.5: May 43 Roundup troop basis by branch and service; rounded to nearest hundred⁷²

| Type | Strength | % |
|----------------|----------|----|
| Combat | 100,000 | 40 |
| Service and HQ | 150,000 | 60 |
| Total | 250,000 | |

Table 4.6: 1 May 43 Roundup troop basis for the AAF by type

Allied thoughts of invading France revived after the Trident Conference in May 1943; progress against the U-boat threat and success in North Africa permitted a more optimistic outlook. Under these more favorable conditions, U.S. planners hoped to transport 1.4 million U.S. service members to Great Britain by 1 May 1944, to accelerate the combined bomber offensive, and stage Roundup. This moderate increase in the number of men the U.S. hoped to deploy to Britain, combined with the renewed commitment to launching Roundup in 1944, drove ETOUSA to update their troop basis estimates in the summer of 1943. SOS held its first follow-

⁷² Ibid. Categorizing combat forces is problematic. Some percentage of the AAA, Engineer, and CWS troops listed here as service or combat support forces often engaged in direct combat with enemy ground formations, while some FA and AAA units were used as service troops for short periods of time. The percentages are helpful for general comparisons, but they were likely to fluctuate over time under combat conditions.

up meeting after Trident on 28 May at Cheltenham. The group could not agree upon a complete forecast for service forces, but it did draft a new product – the long-term forecast – to supplement the short-term forecast.⁷³ This document extended the planning horizon from 30 to 90 days, prioritizing units crucial to keep Bolero on track and seeking War Department confirmation that the forces would be shipped within the next three months.

Work on a comprehensive new troop basis continued under Lee throughout June and July, but the July figures were shot down by the War Department. This estimate, prepared by Lee in his new role as the theater G-4, reserved 51% of the force for air and support units, leaving only 49% for the Army Ground Forces. The War Department balked, pointing out that ground forces comprised 59% of NATOUSA at that time and seemed a more reasonable figure.⁷⁴

A significant issue was that ETOUSA and the War Department did not have a common language with which to discuss the subject. Furthermore, there was no concrete scheme of maneuver for Roundup in July and August, nor was there much data from active theaters on what the right mixture of service forces was to support deep mobile operations. Precedent existed to support both sides of the argument, but, without an approved, detailed scheme of maneuver associated with the Roundup concept, SOS struggled to justify their demands for service units. The War Department responded to the July estimate with a series of fundamental questions that lay at the heart of any attempt to match manpower requirements to resources. Could service troops work outside of their area of expertise as general labor, or learn a secondary specialization for those times when a higher priority arose or when the unit was not consumed by its primary mission? What was a realistic limit to the number of hours per day and the number of days per

⁷³ Memo, SOS, 25 May. Minutes from Meeting on 28 May. RG 498, UD 578, Box 3854, ADM 345 Troop Basis.

⁷⁴ Ruppenthal, Vol I, 121, 125.

week that a soldier could work? Would civilian, prisoner of war, or unemployed labor be available to supplement SOS efforts in France?

The War Department failed to recognize the hypocrisy of demanding justification of the service troop estimates based upon some linkage to the operational plan while insisting that SOS prioritize efficiency over effectiveness in its work in Great Britain. Visitors from the ASF asked Lee why he could not consolidate some of the approximately 100 small depots sprinkled around the countryside into fewer super-facilities to economize on staff and reduce the amount of traffic among them. This suggestion ignored the fact that operations in France would demand a widely distributed network of depots the closer one got to the front lines. Rather than trying to practice the critical combat tasks of managing inventory and loading supplies across dozens of scattered locations, the War Department seemed to prioritize cutting a few thousand service troops in the U.K. The message coming from Washington about the manpower crunch was reinforced when the Army G-1 was the guest of honor at the 16 August 1943 SOS command and staff meeting.⁷⁵ His message was clear: no longer could you ask for everything you needed to accomplish the mission. Now was the time to figure out how to get by with less – efficiency would be the name of the game. Lee acknowledged the issue and the War Department perspective, but he would not budge on the principle. France was not the United Kingdom; the country was likely to be a mess due to friendly and enemy action, and effective support demanded a certain amount of redundancy. Lee closed by reminding his guests that Torch should have taught everyone the risks associated with under-resourcing the service of supply in a theater.

The War Department was forced to do some soul searching as Quadrant transformed Roundup from a distant concept into a looming reality. COL P. W. Edwards, ETOUSA's

⁷⁵ SOS C&S Notes, 16 Aug 43. RG 498, UD 578, Box 3882, ADM 455, NARA II.

principal interface at OPD, wrote the chief of staff on 15 August warning him that the Army G-4 was pushing back against the latest draft troop basis because there was no associated administrative plan to justify the requests.⁷⁶ Suddenly the need for a draft sustainment concept for Roundup became a hot issue, and ETOUSA realized they had nothing on hand that might serve as a starting point, and no organization equipped to begin the process. As a result, Devers sped up the process of establishing an operational logistics planning capability in London. This requirement contributed to the decision to place Crawford in London, to Devers' letter to Marshall raising the issue of an Army Group headquarters, and to the assignment of Moses as the FUSAG G-4. Before this Devers had relied on MG Barker as his most experienced and knowledgeable expert on Roundup and had dispatched him to cover Quadrant and follow up with the War Department on its implications. In the interim, ETO chiefs of service tried to justify their recommended troop lists as best they could. COL Rowan, head of the Chemical Warfare Service, shared with his peers at the end of August that he was struggling mightily. Many CWS units were so new that they had never been committed in combat; there was no point of reference to estimate what would be required to support the initial invasion in France.⁷⁷

More bad news followed in a pair of letters from COL Edwards on 5 and 7 September.⁷⁸ He reported that the War Department, at last, had openly acknowledged that it had overcommitted in 1943, promising far more resources than were available. The immediate reaction was a comprehensive review of the troop basis for every theater, a process headed by a COL Hodes that had just started that week. Luckily for ETOUSA, MG Barker was still in town and had convinced Hodes of the validity of most of ETOUSA's requests, but some units were

⁷⁶ Letter Edwards to Edwards, 15 Aug 43. RG 498, UD 578, Box 3854, ADM 345 – Troop Basis.

⁷⁷ SOS C&S Notes, 30 Aug 43. RG 498, UD 578, Box 3882, ADM 455, NARA II. Rowan used smoke generator units as a concrete example.

⁷⁸ Letters, Edwards to Edwards, 5 and 7 September 1943. RG 498, UD 458, Box 3854, ADM 345.

already on the chopping block, either because the Army had no more of that type and was not going to activate more, or because it was generally believed within the War Department that other troops could perform those functions as a secondary mission.⁷⁹ Edwards confirmed that this initiative was aimed chiefly at the ASF, the result of General McNarney's initiative to reduce the percentage of service troops in the Army.

Based on the news coming from Washington, Devers asked for a comprehensive reassessment of ETOUSA's troop basis, telling SOS to submit a new list capped at 375,000 men, or 25% of the 1.4 million total, down from the 490,000 on the August list.⁸⁰ Devers' guidance was not as unrealistic as it seemed; about 15% of the AGF was comprised of service troops, and the AAF comprised a preponderance of service and command personnel and was likely to operate a large portion of their force from the U.K. anyway.⁸¹ The 9th Air Force was equipped to be self-sufficient from the army group depot forward, with 65,000 of its 200,000 personnel consisting of service troops, plus twenty organic engineer battalions. When one looked exclusively at the number of combat forces requiring support in France against the number of service troops assigned to any component of the Army, the ratio was almost exactly 1:1.⁸² Once in France, ETOUSA generally consisted of 50% support units and 50% combat and combat support elements.

⁷⁹ Edwards provided the following examples: fire-fighters, utility [as in building maintenance] detachments, special service companies [morale and recreation], photo signal companies, and bomb disposal squads.

⁸⁰ Ruppenthal, Vol I., 128. AGF were allocated 626,000, AAF 417,000, and SOS 375,000 men in the final November 1943 estimate approved by the War Department, which had revised the total upward to 1.4 million men. Ruppenthal is guilty of presenting the numbers in the worst possible light from SOS perspective. When one considers service troops assigned to in three components of ETOUSA, the support to combat ratio is closer to 1:1.

⁸¹ Moses, Ford, and O'Hara, General Board 30, 3, 15-17. 8th Air Force remained in the U.K.

⁸² Obviously, the ratio fluctuated over time, with combat troops frontloaded for Overlord and Anvil and various elements of the Allied Airborne Army bouncing back and forth between the U.K. and the continent as needed.

To some extent top-down percentages and force caps were immaterial to the discussion taking place. The number 490,000 was the result of a bottom-up process conducted by each chief of service, based on the assumptions outlined by PROCO and expanded upon by the Americans working at COSSAC. To reverse-engineer a bottom-up solution that arrived at the magical number of 37,500 required overly creative and even dishonest modifications to fundamental assumptions. Each service office had to go back and change the planning estimates used to define the scope of the mission and thus the type and number of units needed accomplish those tasks within the desired time window. The only way to do this was to convince oneself that the problem was easier. To accomplish this, they assumed that more French labor would be available or that Frenchmen would come looking for work sooner. They reduced the levels of damage anticipated for French infrastructure, and they accelerated their projected rates of repair to roads, rail lines, and bridges. Planners cut how much support they assumed the civilian population would require from military sources, and they increased the anticipated windfall of supplies to be had from French or German sources. ETOUSA also maximized the size and rate of the Allied force buildup in Normandy and accelerated the projected breakout from the lodgment. SOS acknowledged that its estimates for French and POW labor were based completely upon guesswork and that they ignored the need for units to secure the rear area from enemy forces and civilian poachers.⁸³ The entire process was about justifying an arbitrary number, not arriving at a common set of planning assumptions and then recommending an adequate support force. It is illuminating that the AGF and AAF were not subjected to these same external audits of their planning assumptions and percentage of the manpower budget; only the ASF had to justify their requests to such a degree.

⁸³ General Board 128, 29.

A Preliminary Assessment of the U.S. Troop Basis

SOS was always honest about the lack of science behind the process used to generate their troop estimates. Lord and the team that produced GB Report 128 pointed out: “No recognized War Department publications offered even a theoretical solution to the problem; they merely stated that such requirements would vary under different circumstances.”⁸⁴ No higher-level U.S. doctrine addressed this dilemma conceptually, much less with any detailed ratios between divisions and corps to their supporting quartermaster, ordnance, and transportation units. By July, operations in the Mediterranean (and the Pacific) provided some rules of thumb, but the ASF faced an uphill climb trying to extract detailed information from NATOUSA on the distribution of service troops by type. And each theater was different; the service troops needed to support 15th Air Force in North Africa were very different from SOS and base section structure used to support fighting in Italy and maintain garrisons in the Mediterranean. Operations in Tunisia in the spring of 1943 offered useful rules of thumb, but it was difficult to separate British and U.S. contributions within the communications zone and to agree upon a list of support units required to back up various types of combat formations. Somervell finally gave up trying to use numbers from World War One to justify a larger ASF in February 1944, after Styer and Lutes convinced him that the number of service units in COMZ and combat zone were so mixed together as to be worthless.⁸⁵ The truth was that no one really knew what the proper ratios, much less the exact distribution of services, should be.

⁸⁴ General Board 128, 28.

⁸⁵ Memo, Lutes to Somervell, 14 Feb 44, RG 160, Dir P&O, File 73, Box 6. Somervell initialed his agreement with the recommendation.

The AGF had an easier task; they spoke of infantry and armored divisions with an agreed-upon ratio of supporting combat battalions. The AAF talked about fighter, bomber, and transport wings. Both air and ground estimates could be justified by the enemy's strength and by established rules of thumb about how much ground a division or corps could hold. In contrast, the War Department demanded that SOS reduce a host of independent variables into simplified planning assumptions. Hitting the nail on the head was impossible, and the only safe bet was to err on the side of caution, something that most combat commanders and the War Department did not want to hear.

| Command | 21 Jun 44 | % | 21 Jun 44 | % |
|--------------|-----------|-----|-----------|-------|
| COMZ | 486,015 | 31% | 486,015 | 42.3% |
| Field Forces | 661,836 | 42% | 661,836 | 57.7% |
| Other | 429,271 | 27% | | |
| Total | 1,577,122 | | 1,147,851 | |

Table 4.7: ETOUSA Strength, 21 Jun 44, by major command⁸⁶

Having said all of that, by mid-June 1944 SOS had won the battle to secure a significant percentage of the numbers committed to France for service troops. Service troops comprised at least 42% of the force allocated for operations in France, and 15% of the field forces were support units as well. ETOUSA's percentage of service troops earmarked against operations in France was almost identical to the composition of the British 21st AG and 2nd Army in June and August. If matching British percentages and securing an almost 1-to-1 ratio of service to combat

⁸⁶ The "other" category was not defined; I assume it consists of AAF and U.K. garrison forces not intended for immediate deployment to France. Field forces included about 16% supporting branch and service personnel (signal, chemical warfare, TC, QM, AG, ordnance, and medical) organic to divisions, corps, armies, army groups and separate formations below division size.

forces are reasonable measures of effectiveness, ETOUSA had ensured that logisticians had enough troops to support Overlord.

| Branch or Service | Percentage of Total Strength |
|-------------------|------------------------------|
| Infantry | 16% |
| Armor | 7% |
| Artillery | 17% |
| Engineer | 13% |
| Signals | 5% |
| Service | 42% |

Table 4.8: Composition of 2nd British Army by type, Jun 44⁸⁷

| Troop Type (combat or service) | Percentage |
|--------------------------------|------------------|
| Combat (incl Signal and Eng) | 56% (of 660,000) |
| Service | 44% |
| RASC (QM+TC) | 15% (of 660,000) |
| Pioneer (Construct. Eng) | 10% |
| REME (Repair) | 5% |
| Medical | 4% |
| MP, Ordnance, Intel, etc | 10% |

Table 4.9: Composition of 21st AG with service breakdown, Aug 44⁸⁸

Moses thought that the ratio at the army group level was about right in the aggregate, but new combat units tended to arrive well in advance of corresponding service units, creating minor

⁸⁷ John Buckley, *British Armour in Normandy*, Citing CAB 106/112, 30 Jun 44. Signal and some portion of engineers would count as service troops in the U.S. Army, so the proper percentage for comparison would be around 47% or just a bit higher.

⁸⁸ Ellis, Vol 1, 536. 21st Army Group numbers included the LoC and base command personnel. Service troops represented around 47% of the total ground force committed to France, adjusting for signal and a portion of engineers included in the combat portion of the AG.

crises from time to time.⁸⁹ If resources were available, the authors of General Board Report 30 suggested, the percentage of service troops in the field forces should be increased from 14.8 to 16.8% with the additions captured in the table below.

| Service | Number | % | Desired | Service | Number | % | Desired |
|---------|--------|------|---------|---------|--------|-----|---------|
| Eng | 9,000 | .72 | +1700 | Trans | 664 | - | - |
| Chem | 2,200 | .176 | +1500 | Med | 42,000 | 3.3 | +3900 |
| QM | 75,000 | 6 | +9300 | Signal | 1,500 | .12 | +1000 |
| ORD | 54,500 | 4.4 | +12100 | | | | |

Table 4.10: Service troops in 12th AG by May 45 and desired expansion⁹⁰

The Allies anticipated almost every logistical challenge they face from June to September, and set aside enough resources to overcome them, doing particularly well when it came to fixing ports, bridges, rail lines, and building a POL pipeline to support the forward armies. There were artillery ammunition shortages at various stages in the campaign, but this had more to do with U.S. production decisions than COMZ's ability to deliver the supplies. The U.S. would have benefitted from having more cargo aircraft or from committing the aircraft they owned to aerial resupply. But with perfect hindsight, ETOUSA was only confronted by one glaring shortage in capability in August and September, and that was in motorized transportation. The shortfall could have been mitigated by having more truck companies, switching over to heavier trucks, securing at least two drivers for each truck, or using and prioritizing the resources that were available.

It is helpful to remember that ETOUSA accepted 160 truck companies as the bare minimum needed to support two armies to at least the Seine and, if properly equipped, to the

⁸⁹ Moses, Ford, O'Hara, General Board 30, 2-3.

⁹⁰ BG Raymond Moses, COL R.O. Ford, and COL J.J. O'Hara, "Service Troop Basis" USFET General Board Report 30, 3.

Westwall. Despite an initial slow-down of the original deployment schedule, all these truck companies were operating on the continent by mid-August.⁹¹ By the end of the war ETOUSA had 464 truck companies assigned. One third were allocated to 12th AG, another third probably distributed among 6th AG and the two tactical air forces, and between 150 and 200 were centralized under COMZ control.⁹² ETOUSA's original estimate of either 160 heavy or 240 standard 2.5-ton truck companies had not been far from the mark.⁹³

Dropping the Ball on Heavy Trucks for ETOUSA

The story of the whittling away of the initial truck company requirements submitted by the OCOT, ETOUSA was covered in depth in the official histories of ETOUSA and the Transportation Corps.⁹⁴ However, neither volumes completely untangled a very complex debate that lasted almost a full year. What is well known is that Ross wanted 240 truck companies on the continent by D+90, but the ETOUSA G-3 and G-4 authorized only 160. Ross then asked that 135 of these be upgraded from standard 2.5-ton trucks to special models including 72 companies equipped with various types of heavy tractor-trailer combinations, totaling 3,364 tractors.⁹⁵ OCOT also asked that two drivers be provided for each truck, increasing company strength from

⁹¹ Ruppenthal and Bykofsky and Larson make much about the slow deployment of truck companies to Normandy, but the Red Ball express employed 132 companies during the first days of operation and by mid-September the COMZ had 181 companies assigned. 12th AG had another 104 companies under its control. See page 568 and note 77 on that page of Ruppenthal, Vol I and General Board 30, appendix 1, page 4.

⁹² GB 30 Appendix 1, 4.

⁹³ The COMZ had to support a much larger force in spring 1945, but it could count on trains to handle much of the distance. But when the Allies sustained a thrust across the Rhine deep into Germany, Austria, and Czechoslovakia, it was not because they had many more truck companies compared to the fall of 1944. Instead, there was superior coordination by newly established motor transport organizations and heavy equipment had been fielded to the COMZ truck companies.

⁹⁴ Ruppenthal, Vol I, 315, 553. Bykofsky and Larson, 239-242.

⁹⁵ These were submitted as PROCO GS 20 and 21 on 31 July 1943. See Bykofsky and Larson, 240, note 17. Ruppenthal, Vol I, 554. This represented PROCO and CLS IV requirements only. Six months later the total ETOUSA requirement for 4- to 5-ton tractors had increased to 4,167.

about 105 to 145 men. All these requests used as justification the first-hand experience gained in North Africa and Italy showing the importance of heavy equipment while keeping enough personnel to run trucks between sixteen and twenty-two hours a day.⁹⁶

The traditional story of why the ASF failed to provide heavy trucks to ETOUSA before Overlord posits that the ASF fought replacing 2.5-tons with heavy trucks, and, when they finally agreed to double heavy production in 1944, it was too late and the auto industry could not expand quickly enough.⁹⁷ By April the ASF realized that they had an unsolvable problem; the only possible solution at this point was to offer a hodge-podge of substitute vehicles. In hindsight these replacements were no better than the standard 2.5-tons they replaced.⁹⁸ By the time heavy truck production was hitting its stride around October, port congestion in France prevented their delivery.⁹⁹

The true story of why the ASF failed to fill ETOUSA's heavy truck request is a bit more complex. The ASF directed the chief of ordnance to double production of heavy trucks in 1944 from 35,000 units to 67,000 units on 26 July 1943.¹⁰⁰ The U.S. Army accepted 38,314 heavy-heavy trucks and trailers in 1943 and an additional 20,008 from January to June 1944.¹⁰¹ There were major problems with the expansion plan that the ordnance department tried to execute in 1944, but there were plenty of trucks to meet ETOUSA's requirement. By the end of July ETOUSA had received 350 4- and 5-ton trailers with another 200 on the way; by the end of July

⁹⁶ SOS C&S Notes, 1 Feb 44. RG 498, UD 578, Box 3883, ADM 456, NARA 2. Lee was surprised to hear that the WD was pushing back on the request for two drivers per truck and asked Ross if he had cited Lee's observations from a recent trip to Italy and more generalized reports coming out of North Africa. Ross assured Lee that he had.

⁹⁷ Harry C. Thompson and Lida Mayo, *The Ordnance Department: Procurement and Supply* (Washington, D.C.: U.S. Army Center of Military History, 1960), 286-287. Ruppenthal, Vol I, 554.

⁹⁸ Ruppenthal, Vol I, 555.

⁹⁹ Ruppenthal, Vol II, 243.

¹⁰⁰ Thompson and Mayo, 286, note 91.

¹⁰¹ *Ibid*, 290. The Army referred to heavy trucks pulling heavy trailers as "heavy-heavy" units. This applied to anything with more carrying capacity than the standard 2.5-ton and 1-ton trailer.

the number would jump to 2,080, or about half of the theater requirements that had been established back in August 1943.¹⁰² At the end of October the number was 3,100, but another 2,600 were in the pipeline.

In early 1944 the ASF agreed to fill at least half of the ETOUSA request. Somervell directed that the first two months' production of a new 5-ton 4x2 tractor be diverted from the China-Burma-India theater to ETOUSA before 4 January 1944, equating to about 2,000 trucks.¹⁰³ Although they arrived a month later than the ASF had promised, 2,080 trucks of a similar capability had been shipped to France and put into use by the end of August.¹⁰⁴ Other offices within the ASF clearly realized that ETOUSA needed more than 2,000 heavy tractors, but no sourcing plan for additional trucks can be found in the records.¹⁰⁵ One is left with the impression that Somervell believed he had solved the problem by diverting early production of the 5-ton 4x2 and no one below him caught or tried to correct the mistake until late March or early April. SHAEF was dragged into the issue in late April, and in mid-May SHAEF officially let the ASF off the hook. Rather than demand that the ASF provide more standard truck companies or that it find and deliver additional heavy trucks beyond those offered by MG Handy in his letter on 29 April, SHAEF dropped the issue. Even if all the trucks promised by Handy had arrived on time, they would have filled only 60% of Ross' initial requirements.¹⁰⁶ Despite

¹⁰² Monthly status reports for June and July 1944, OCOT, ETOUSA. RG 498, UD 578, Box 3883, ADM 451, NARA 2.

¹⁰³ BG W.A. Wood to Somervell, 5 Jan 44. RG 160, Dir of P&O, File 33, Box 4, NARA 2. This note assured Somervell that the first two months of production would be diverted to ETOUSA.

¹⁰⁴ OCOT Reports for August. RG 498, UD 578, Box 3883, ADM 451, NARA 2.

¹⁰⁵ Magruder, "Analysis of Army 1944 Heavy Truck Required Production for Special Projects and CLS IV Reserves," undated. There is a cover note, dated 7 Dec 43 directing the retention of the document as the file copy. Earlier drafts with identical numbers go back to at least 23 Oct 44. RG 160, Box 52. COL Magruder was the chief of the plans division within the office of the director of plans and operations, MG Lutes. In the document filed in December, Magruder reserved 1030 4-5 Ton 4x4 and 7264 5-Ton 4x2 tractors for ETOUSA in 1944.

¹⁰⁶ Letter, Handy to Crawford, 29 Apr 44. Response, Crawford to Handy, 17 May 44. RG 331, Box 249 (SHAEF Log Plans Branch Staff Studies), Staff Study 8, NARA 2. Handy, the chief of OPD within the War Department, promised to collect 770 prime movers and 2,100 large trailers that had already been issued, and he confirmed the

over a year's warning, the ASF failed to meet a straightforward request for equipment, ignoring shortages that would have massive repercussions in France. It is no great leap in logic to suggest that had the ASF found and delivered 4,000 heavy tractors and their associated trailers to ETOUSA before July 1944 the Allies would have reached and perhaps penetrated the Rhine and Westwall in early fall 1944.

How all of this happened is a rather long and convoluted story. There are documents demonstrating that the demand signal for heavy trucks to support the CBI and ETO came from within the ASF, or at least pre-dated Ross' 31 July request.¹⁰⁷ The officer charged with long-range planning, COL Carter Magruder, coordinated with SOS to help write the justification for PROCO projects GS 20 and 21 and for subsequent documents produced by Ross' OCOT.¹⁰⁸ There is also documentation to prove that the ASF took this recommendation seriously, and it worked carefully over the next three months to produce a reliable estimate of global requirements and a plan to restructure heavy truck production.¹⁰⁹ At the end of September BG Wylie reinforced the message that 15,000 2.5-ton trucks earmarked for line-of-communications duty in 1944 should be replaced by 12,500 long-body trucks or tractor-trailer combinations.¹¹⁰

first 1,750 new 5-Ton tractors coming off the assembly lines would be sent to ETOUSA. OPD/ASF finally delivered the last of this promised equipment between the end of September and the end of October

¹⁰⁷ COL Carter Magruder, truck file (400 series), RG 160, Director of Plans and Operations, Planning Division, Theater Branch, Central Decimal File, Box 52, NARA II. The earliest document in this file includes a memo from Magruder to the Director Requirements Division, dated 12 July 1943, outlining the need for heavy trucks, particularly tankers, to support CBI. In that same note Magruder suggests that the ETOUSA probably has the same requirements and just has not realized it.

¹⁰⁸ GS 20 and 21 established SOS requirement for trucks of all types. Copies of correspondence between Magruder and various agencies are included in the file referenced in footnote 182 above. A final version of the ETO request for 2139 4-5-ton 4x4 tractors, dated 4 Dec 43, is on file as the master copy.

¹⁰⁹ The chief of ordnance was notified by the director of the requirements division within the ASF that heavy truck production in 1944 needed to double on 26 July 1943. Thompson and Mayo, 286, note 91.

¹¹⁰ Wylie, "Motor Vehicle Production Schedule," 30 Sep 43, memo from OCT, ASF, to Director, Requirements Division. RG 160, Dir P&O, Planning Div, Theater Branch, Box 52, NARA 2. Wylie acknowledged that the Army had accepted large numbers of heavy trucks between 1940 and 1943, but they were not easy to break down and load on ships. New models needed to have this capability.

By supporting the call for heavy trucks, BG Wylie gave a boost to ETOUSA's request and the eventual fielding of heavy trucks by the U.S. Army. But he also slowed the delivery time of the first large batch of equipment when he introduced the idea that these requirements would be best met by new production. The trucks were to be redesigned to ensure that they were semi-collapsible and therefore more efficient to ship overseas. This memo might have played a major role in introducing the idea that ETO requirements should only be met with new production tractors and trailers rather than rounding up old equipment or the new production of the current models (4/5-Ton Autocar, White, and Federal 4x4s).¹¹¹ The overall Army demand for heavy trucks in 1944 was massive, demanding a doubling of production from 35,000 to 67,000 units in that year.¹¹² The total U.S. requirement for 1944 was 69,575 heavy trucks, but only 37,900 of these were for the Army. Another 18,000 went to the U.K., Canada, and the USSR.¹¹³ Magruder also pointed out that the Army already had 20,000 heavy trucks in its inventory. From the beginning of 1941 until the end of 1943 the United States had produced almost 70,000 heavy-heavy trucks, to include 20,000 heavy tractors, and 19,000 heavy trailers, some of which had been given to allies under Lend-Lease.¹¹⁴ Surely it would be easier to use older models to meet ETOUSA's time-sensitive requirements rather than wait on a new model due to enter production in May 1944.

Regardless, by the end of December and early January it seems that ASF had decided that they had solved the issue with heavy trucks, even if the math never quite added up. Magruder's

¹¹¹ Wylie specifically referred to 5-ton 4x2 trucks and their associated trailers, with the same specifications as the CBI equipment. This might have led staff officers to assume that older equipment, which could be delivered on time, would not work.

¹¹² Thompson and Mayo, 286.

¹¹³ Table attached to numerous versions of Magruder's projection for heavy trucks dated from 23 October to probably 7 December 1943. If one included allocated support to Allies, the number increased to over 69,000.

¹¹⁴ Aubin, 153, citing Office of the Chief of Ordnance figures.

final numbers for the ETO's special projects (PROCO) and CLS IV reserves required 1030 of the 4/5-ton 4x4 truck tractors, 744 10-ton trailers, and 7,264 of the new 5-ton 4x2 tractors due to enter production in May 1944.¹¹⁵ The formal request from ETOUSA was for around 4,100 heavy tractors for operational units. Someone mounted a last-ditch effort to stick with 2.5-ton trucks, prompting Magruder to develop a rather clever chart to justify a preference for heavy equipment rather than standard trucks. Magruder realized that the pressing concern within the ASF in the fall of 1943 was manpower; switching to heavy trucks in COMZ units would save the Army tens of thousands of drivers and mechanics. The chart included in his analysis made that crystal clear, and it also touched on a second hot topic, tires:

| Type of Vehicle | Ton/miles per gallon | # drivers per 100 tons | # tires per 100 tons |
|------------------|----------------------|------------------------|----------------------|
| 2.5 Ton 6x6 (x4) | 26.25 | 30 | 360 |
| 5 Ton 4x2 | 40 | 10 | 100 |
| 10 Ton GSLC 6x4 | 25 | 10 | 100 |

Table 4.11: ASF comparative analysis of truck solutions

This staff work dovetailed nicely with a recent approval of the ETO troop basis, which called for 312 truck companies with 35,880 men and 46 dump truck companies calling for another 5,244 men.¹¹⁶ About half of these companies had to be equipped with 2.5-ton trucks in order to operate on poor roads in the combat zone, but the rest were easily replaceable with road-bound trucks. Any solution that might cut manpower or tire requirements by a third or a quarter was welcome news. Around the end of December, Somervell directed the ASF to send the first

¹¹⁵ Magruder, "Analysis of Army 1944 Heavy Truck Required Production for Special Projects and CLS IV Reserves," 7 Dec 43. RG 160, Dir of P&O, Planning Division, Theater Branch, Box 52, NARA 2. The tractor requirement seems to be about 1,500 too high based on Ross' status report for 31 December, which called for 5,667 heavy trailers in the theater.

¹¹⁶ Cable W7203, Devers to War Department, 15 Nov 43. RG 160, File 32, Box 3 (Dir of P&O Subject Files), NARA 2.

2,000 of the new 5-ton 4x2 tractors, due to begin production in June, directly to ETOUSA and considered the case closed.¹¹⁷ No explanation for the discrepancy between the number of heavy trucks requested, a number between 4,180 and 8,500, and the number promised, 2,000 under optimal conditions, can be found in the records of either Director P&O or SHAEF G-4.

Ross and Lee continued to monitor the delivery of trucks closely. On 30 November, 10 January, and 6 March Lee was quick to point out emerging problems with the delivery of new trucks and problems with older models. In November SOS embarrassingly claimed that they were 15,000 trucks under strength, only to have the ASF point out they were using old tables of equipment.¹¹⁸ This was a mistake that rested squarely on the shoulders of SOS; only they could roll up the authorizations and equipment on hand submitted by every service, branch, and base command that possessed standard 2.5-ton trucks and dump trucks. But it also illustrated how difficult it was for a senior headquarters to stay abreast of changing instructions from the War Department, even without the added chaos of combat. In January ETOUSA shared the bad news that the latest tank recovery vehicle was considered too cumbersome for use in Normandy and 1,420 smaller ones would be required before June.¹¹⁹ Lutes pointed out that U.S. production through May would provide only 350 trucks but that the U.K. had accepted 2,100 of the lighter M19s to date; perhaps ETOUSA could ask the British to reallocate some of these carriers.¹²⁰ Finally, on 4 March Lee reported that deliveries had fallen 8,000 trucks behind schedule to meet

¹¹⁷ BG W.A. Wood to Somervell, 5 Jan 44. Wood assured Somervell that ETO would receive all production from May and June 1944, which would meet 90% of their requirements if production started on time and reached the 1,000 units-a-month goal.

¹¹⁸ Cable from Sextant (ASF HQ) to Devers and the War Department, 30 Nov 43. Cable from Somervell to ETO and WD, 1 Dec 43. RG 160, File 32, Box 3.

¹¹⁹ Cable from USSOS through USFOR [ETO] to WD, 10 Jan 44. Cable from USFOR to WD, 25 Jan 44. On 10 January Lee reported that the M25 would have to be replaced with M19s. On 25 January the ASF pointed out that production of the M19 for U.S. forces had ended and that only 350 would be built by May to close out Lend-Lease obligations. ETO wrote back that same day confirming the need for 1,420 tractors and 111 trailers to meet British and U.S. requirements.

¹²⁰ Cable, Lutes to ETOUSA, 26 Jan 44.

the Overlord troop basis requirements, and this time it could not be chalked up to accounting error. Lutes confirmed the shortfall, in the process uncovering a few other critical shortages such as signal equipment and 750 2,000-gallon tankers and 2,000 2.5-ton trucks converted to carry 750 gallons of fuel each. Writing on 1 April, Lutes admitted that the ASF could do little to fix the 2,000-gallon tanker issue.

A rising sense of concern over the truck situation began to emerge at SHAEF and ETOUSA around mid-March. The G-4 staff at SHAEF had settled into a rhythm by early March, and one of the first projects handed to the planning division was an assessment of the logistical situation after the conclusion of Overlord, which was defined as the period from D+60 to D+240. This work exposed problems with the documents SHAEF had inherited from other sources and led some officers to suspect they were not adequately resourced for the upcoming mission.¹²¹ At the same time, General Lord, who was accompanied by the ETO chief of service for engineers, quartermaster, ordnance, signal, and transportation, arrived in Washington, D.C. to try to accelerate the arrival of essential equipment. Their primary concern was with PROCO items; “normal” items listed on unit tables of equipment were not the issue. It was a fruitful trip that helped energize the ASF and focus everyone on critical shortages, but it also exposed a handful of unsolvable problems. A formal out brief was held on 30 March, and there the ETO team reiterated their concerns over a few key projects. General Moore, the theater engineer, still desperately needed material and tools to build 800 miles of 6-inch POL pipeline, and Ross was adamant that he needed the heavy trucks he had asked for back in July and August.¹²² There

¹²¹ SHAEF G-4 Weekly Reports, 2, 17, 25, and 27 Mar 44. RG 331, SGS Decimal File, Box 30, NARA 2.

¹²² Memo from Magruder to Lutes, 30 Mar 44. RG 160, File 33, Box 4, NARA 2.

were pages of other shortages attached to the report, but Lutes insisted on switching to a new standard: items whose absence jeopardized the accomplishment of Overlord.¹²³

This new standard helped to resolve most of the outstanding issues. The chiefs of signal and medical service reported they could live with what was on hand and projected to arrive in the coming months. The quartermaster broke his list into two priorities; priority one was needed before 6 June, but priority two items could arrive as late as 31 July. Lutes promised to ship everything listed at priority one on the April and May convoys. The chief of ordnance presented a problem that was much harder to fix. If one included ammo received, on the way, or promised, the ETO was still short the following items:

| Type | Quantity Authorized | On Hand & Enroute | Deficit |
|----------------------------|---------------------|-------------------|---------|
| 60 mm Mortar, Illuminating | 39,620 | 21,522 | 18,078 |
| 75 mm Gun Shell, Smoke HC | 165,750 | 85,116 | 80,634 |
| 81 mm Smoke | 226,800 | 101,716 | 125,084 |
| 105 How Shell, HE | 2,763,003 | 1,719,218 | 953,785 |
| 105 How, HE, AT | 204,525 | 121,810 | 82,715 |
| 105 How WP, Smoke M-2 | 303,750 | 53,700 | 250,050 |
| 105 How Gas, M-2 | 303,750 | 119,460 | 184,290 |
| 4.5 Gun Shell, HE | 252,000 | 200,000 | 52,000 |
| 155 How Smoke, HC, M-1918 | 750,000 | 0 | 750,000 |
| 155 How Smoke, HC, M-1 | 82,800 | 5,000 | 77,800 |
| 8" Gun Shell, HE | 9,000 | 0 | 9,000 |
| 8" How Shell, HE | 108,000 | 23,601 | 84,399 |
| 240 How Shell, HE | 24,750 | 3,150 | 21,600 |

Table 4.12: ETOUSA ammunition shortages 3 Apr 44

These shortages translated to insufficient obscuration fires, increased the danger of large-scale tank attacks to infantry formations, and rendered the U.S. heavy artillery virtually worthless. Medium 105 mm howitzers were the backbone of division artillery regiments and high-explosive shells were essential in both attack and defense.

Lutes admitted that there was little they could do to fix many of these shortages, but over the following three weeks the ASF did everything within its power to work on the prioritized list provided by ETOUSA. MG Styer, the ASF chief of staff, summarized progress to date in a letter

¹²³ Memo from Lutes to Chiefs of Services, ETO, 3 April 44.

to General Hull at the War Department on 29 April. The team had started with 120 critical shortages, but through hard work they had reduced the original list down to 39. At the same time, they also discovered 40 new ones.¹²⁴ The ASF would review progress on all 81 items twice a month, and it anticipated providing but three items before they were needed in France. Styer knew that they could not meet the requirement for the M29 cargo carrier (which was basically a tracked jeep), the 4/5-ton tractors with trailers, and the Buda engines for the tankers (diesel replacement engines for heavy machinery). Three weeks prior to Overlord the list was expanded to include amphibious trucks, LVTs, mine-exploding devices, and the already mentioned tank transporters, heavy trucks, and artillery ammunition.¹²⁵

While the ETOUSA and ASF staff labored to identify and fill critical shortages during the last week of March and the first two weeks of April, SHAEF was independently validating concerns with the troop basis and certain equipment shortages on their own. In order to produce a concept of the support needed after Overlord, the SHAEF team had to understand where 1st Army and FUSAG believed the command would be on D+60. COL Whipple, chief of log plans at SHAEF, led his team through a reexamination of all the logistical planning and underlying assumptions used by Moses and the various technical services at ETOUSA. The result was a mounting sense of anxiety. The divergence of opinion about the feasibility of the draft estimates was compounded by a lack of ETOUSA presence at the SHAEF G-4 planning sessions. SHAEF G-4 and 21st Army group administrative staff had a close relationship, but SOS and technical services seemed to be boxed out of these meetings, either because they were not readily available or because SHAEF forgot to invite them.¹²⁶ At the end of March serious questions about POL

¹²⁴ Letter, Styer to Hull, 29 Apr 44. "Supply Situation for the ETO" RG 160, File 33, Box 4, NARA 2.

¹²⁵ Ruppenthal, Vol I, 259, note 67 on 260.

¹²⁶ SHAEF Log Plans Update Four, 17 Mar 44. RG 331, SGS Decimal File, G-4 Weekly Reports, NARA 2. The report lists the attendees for the second post-Overlord meeting, and no one from the ETO general or special staff

pipeline material, rail repair, port capacity, and truck requirements had emerged from these planning sessions.

By 7 April SHAEF G-4 believed they understood the key limiting factors that would impede expanding the lodgment in Normandy. It had come as a surprise to the group that distribution over an already modest road and rail network even before it was damaged by friendly and enemy action would be the greatest challenge – not port capacity.¹²⁷ The recommended solution was plenty of engineers, landed early, to fix the roads and rail lines. But a week later a more sophisticated appreciation of the problem had emerged. At the top of the list was a shortage of truck companies, followed by insufficient road networks, the time it would take to repair rail lines, and port capacity if the Allies faced unanticipated delays in securing a second major port.¹²⁸ SHAEF also rediscovered the shortage of tank transporters that ETOUSA had raised on 10 January, reporting a critical shortage of 1,740 M19s and 496 M25s by 15 July 1944.¹²⁹ The staff wanted these trucks to move tanks over long distances, but their initial contribution in France was their ability to carry a mass of supplies.

SHAEF's growing concerns were echoed at the AEF, especially within 9th Air Force. Motor transportation had been a point of emphasis since the command had been established. The author of General Board 30 explained the concerns at 9th Air Force before the campaign in France, pointing out that “reports from Africa, Sicily and Italy indicated that truck transportation was always in short supply during operations.”¹³⁰ When told they could not have any more

were present. The report also notes that SHAEF sent representatives to all 21st AG admin meetings. Whipple saw the chiefs of the ADSEC and FECZ at the weekly SOS command and staff starting in March, but planning and preparation for Overlord were barely mentioned in most meetings.

¹²⁷ Log Plans Update 6, 1 Apr 44.

¹²⁸ Log Plans Update 7, 7 Apr 44.

¹²⁹ SHAEF G-4 Admin Weekly Report, 8 Apr 44.

¹³⁰ GB 30, 21.

companies beyond their current troop basis, the service command centralized half of the companies under their direct control, internally resourced two drivers per truck, and converted four companies to carry bulk fuel. These four companies were high on the 9th Air Force priority list and landed in France on D+21, and they were reinforced with two additional companies soon after. Everyone who had studied the problem was worried about distribution until the rail lines could be restored.

By the middle of April, SHAEF G-4 resembled a bloodhound on a fresh trail. Whipple and Vissering, the latter a British colonel in charge of the movement subsections 3 and 4 within the G-4, met with Ross and FUSAG staff on 12 April to reconcile the various estimates of the transportation required for Overlord. On 14 April SHAEF G-4 convened the first meeting of a recurring workgroup to produce Planning Forecast No. 1 in concert with G3 and ANFX planners.¹³¹ For the first time the G-4 realized that they could not adequately do their job without the most up-to-date information from the G-3. Only by working together could they agree upon the projected front-line, inter-allied boundaries, the army rear boundary line, the location of major groupings of divisions, and a common appreciation of the location and status of ports, railroads, depots, and airfields at various stages of the campaign.

It had taken a few months, but the G-4 realized that logistics planning could not occur in a vacuum divorced from maneuver planning, a handicap ETOUSA or SOS could never have overcome.¹³² One result of these efforts was the conclusion that the Allies would have a serious

¹³¹ Log Plans Update 8, 15 Apr 44.

¹³² The first order of business at the 30 March post-Overlord meeting was collecting updated estimates from the engineers, transportation service, civil affairs, and air planners. G-4 plans also visited 21st AG and SHAEF G-3 plans that week. SHAEF had the authority and organic staff to coordinate this joint and combined effort while ETOUSA would have been hard pressed to do the same. All these estimates changed very rapidly; staying on top of the latest numbers was a full-time job eased by periodic face-to-face engagement. Pulling this off before January 1944 would have been impossible. To do so after the final scheme of maneuver was approved and COSSAC began

truck deficit at D+40. Various worries over trucks would dominate SHAEF G-4 periodic updates for the next month. On 22 April Whipple reported that after three weeks of study “requirements for truck companies indicated [a] much greater [need] than current availability.” These conclusions were shared with and validated by the ETO G-4, FUSAG G-3, and G-4 and chief of staff at the FECZ.¹³³ ETOUSA had indicated that it was taking action to meet the requirements, hinting that an internal change to the planning assumptions might close the gap. All the questions about trucks raised by the OPD and the ASF had reached Lee and ETOUSA was reconsidering their stand on the issue of shortages.

The ASF reacted to the bad news from Ross in April by questioning the validity of his planning estimates. On 29 March the Operations Division at the War Department and the Stock Control Division of the ASF requested copies of the validation data underlying his original requests; these were received by the acting chief of transportation by 11 April.¹³⁴ In addition to suggesting that it was too late to replace standard cargo trucks with heavy tractor-trailers, Wylie acknowledged that Ross’ planning figures might not be perfect, especially the assumptions about the total tonnage and distances to be overcome. It was not a criticism, just a recognition of how hard it was to predict with any accuracy when so many independent variables were in play. Unfortunately for ETOUSA, this information provided a crack to either shift blame for the problem back to Ross and Lee or perhaps make the crisis go away if they could convince theater logisticians to agree to more forgiving planning assumptions.

Three days later Magruder passed along a message to theater branch, a sub-section within P&O, repeating Wylie’s point about tonnage and distance and then adding his concern that

its transformation into SHAEF, a large portion of the ETOUSA staff would have needed to collocate with SHAEF to take this planning burden off their shoulders.

¹³³ Log Plans Update 9, 22 Apr 44.

¹³⁴ Wylie to Magruder, “Motor Vehicle Requirements for ETOUSA,” 11 Apr 44.

perhaps rail capacity was being ignored. He directed theater branch to reengage ETOUSA to answer the following questions:

Determine if the tonnage to be moved is reasonable; determine if the distances over which the tonnage is to be moved [are] reasonable; determine if the road net will permit any such tremendous truck movement; determine if the locomotives and rolling stock that we will furnish for use in the continental operation will be used to capacity and their capabilities included in reducing the overall requirement for tonnage to be moved by truck.¹³⁵

It is almost impossible to believe that Magruder took this action on his own, or even considered it a good idea. Just three days earlier, Magruder had received a letter from BG Wylie confirming that the ETO validation figures made sense. Magruder had helped ETOUSA write their first validation statements back in July. He had recognized the need for heavy trucks in the U.S. Army and had reached out to ETOUSA to submit their requirements. The list of questions passed back to the ETO on 14 April cast doubt on the most basic professionalism and planning abilities of the command. Yet, at the same time the ASF was asking for a comprehensive review of the entire distribution plan from ETOUSA, SHAEF had just arrived at the same set of conclusions that Ross had foreseen back in August 1943.

It cannot be proven, but Magruder's action was consistent with guidance from Lutes, Styer, or perhaps Somervell himself to stretch out the process of validating a critical equipment shortfall that numerous officers within the ASF had acknowledged repeatedly between October and January. It suggests a deliberate delaying campaign designed, first, to introduce doubt about the requirement with the hope that someone in ETOUSA would fold their cards and, second, to obscure the fact that the ASF had dropped the ball on a major issue about which they had been

¹³⁵ Magruder, "Motor Vehicle Requirements for the ETO," Plans Division to Theater Branch, 14 Apr 44. RG 160, File 33, Box 4.

reminded repeatedly. Unfortunately for SHAEF and those hoping for an early end to the war in Europe, it worked.

It seems that the first person willing to reconsider the criticality of heavy trucks or more companies was LTG Lee. Whipple had noted in his 22 April weekly update that “it appears that tactical assumptions reducing the requirement [for truck companies] may be permissible, dependent upon a decision now being taken at SHAEF.” Bykofsky and Larson state that Eisenhower’s staff briefed him on the truck problem and that he passed the issue to Lee for reexamination. They do not provide exact dates when this happened, and their source was a letter written by Vissering in August 1952.¹³⁶ Whipple reported in his 29 April update that all studies related to truck requirements “have been concluded” and left it at that. Bykofsky and Larson stated that Stratton provided a new estimate that downplayed the issue. They add that he had developed a plan to use trucks from 3rd and 9th Army to support COMZ until they were needed. Stratton thought that the transportation system would be adequate “if the heavy vehicles on order materialized in time and rail operations were begun by D plus 60.”¹³⁷ This highly qualified answer must have been delivered around 29 April and was enough to kill the truck issue for about five days.

It is easy to imagine Lee directing his staff to find answers rather than presenting unsolvable problems. Lee was comfortable assuring Eisenhower that COMZ could accomplish its mission with the existing 2.5-tons, heavy vehicles already promised, and second drivers for the truck fleet. This was Lee’s prerogative, but it was hard to believe that everyone was connecting all the dots. At the same time when ETOUSA and SHAEF were worrying about the

¹³⁶ Bykofsky and Larson, 242, 240 note 15.

¹³⁷ The quotation is from Bykofsky and Larson, 242, who cite the History of G-4 COMZONE ETO, Sec. VII, Pt. I, Tab 2b, pp. 7-8.

adequacy of their motorized transport, the Allied air forces were pounding French rail centers, bridges, and rolling stock. Despite emerging doubts about transportation and the realization that early refurbishment of the rail network would be essential to mitigate the truck shortage, no one seemed to reassess the ongoing bombardment campaign. ETOUSA waited until the last minute to find second drivers for the trucks they did have, and no one put any serious effort into finding manpower to stand up and train provisional truck companies ready to operate trucks once they became available.

Almost to the day that Lee decided ETOUSA did not have a truck problem, the issue was resurrected by the War Department staff. On 29 April MG Handy, the director of the operations division, wrote MG Crawford informing him that the War Department had validated the requirements submitted by Ross and the office of the chief of transportation at the ASF. The War Department would release all the vehicles that were at hand that might help, and they reaffirmed their commitment to providing 1,750 trucks with trailers originally promised to the Ledo Road Project.¹³⁸ Handy acknowledged that the equipment that he was releasing for transfer to ETOUSA would address only about 35% of the shortfall, but it was all he could do at this late hour. Luckily for ETOUSA, the War Department had sided with Ross and the Transportation Corps and was forcing the ASF to find heavy trucks to meet ETO requirements. By way of mitigation, Handy suggested that SHAEF could reduce its goal of amassing twenty-one days of reserves on the continent. Handy also pointed out that the ETO would have about 2,000 extra 2.5-tons once the promised heavy vehicles were delivered, provided the command could find drivers to move them. Perhaps SOS could maintain better than the 66% operational

¹³⁸ Handy, "Motor Vehicle Requirements for ETOUSA," Memo for General Crawford, 29 Apr 44. RG 331, SHAEF G4, Log Plans Branch, Staff Study 8, Box 249, NARA 2.

readiness rate used in the ASF study? He finished the letter by asking for an assessment of the truck shortage's impact on and implications for operations. SHAEF had been given a second chance to press home the importance of this issue or else to admit that they disagreed with Ross' initial staff work.

The final result was two weeks of hard work, a softball answer that let the War Department off the hook, and a new low point in the relationship between SHAEF G-4 and ETOUSA. After reading Handy's letter from 29 April, Crawford wanted a thorough reappraisal of the entire truck and transportation question; Whipple launched a new staff study on 4 May. The workgroup, composed of logistics plans, G-4 administration, and G-4 movement and transportation, had two key tasks: review the original truck estimate submitted by ETOUSA, and confirm that drivers were available to man the extra trucks provided by the War Department and to double the driver pool within authorized companies.¹³⁹ Whipple also noted that a preliminary study of the attached justification indicated that the "basic logistical computations attached are completely unrealizable," but it is hard to tell if that opinion came from Crawford himself or from a third party. The good news was that General Crawford had coordinated with Moses and Ross for their full cooperation on the project; noticeably missing was any mention of Stratton or Lord.

It did not take long for a confirmation bias to kick in. Vissering wrote a less than flattering preliminary assessment of the ETOUSA study, finding it "considerably out of line" with the products developed with the SHAEF G-4.¹⁴⁰ The study had evidently ignored port clearance, inner-depot (static), and troop transport requirements, but it also greatly inflated the

¹³⁹ Whipple, "Motor Vehicle Requirements for ETOUSA," 4 May 44. Memo from log plans to Chief Q 'A' British G-4 Division and Chief Mov and Tn G-4 Division. RG 331, G-4, Log Plans Division, Box 250, NARA 2.

¹⁴⁰ Vissering, Staff Minute Sheet, Mov and Tn Branch to Log Plans, 5 May 44, 1.

tonnage that would be moved daily. Vissering agreed with their planning factors on the capacity and ORR of truck units, but SHAEF had used greater turn-around times in their products. The net result was a wash; 160 companies in COMZ was just about the right number. He did note that he thought that having 122 companies dedicated to supporting the Army Air Force on the continent was excessive and that ETOUSA might redistribute some of these assets to address shortages in COMZ.

After the first workgroup meeting on 6 May SHAEF agreed that 160 companies was the right number for COMZ, with 43 working port clearance, 29 dedicated to static missions and a reserve, and the balance used for long-distance LoC support.¹⁴¹ Whipple also asked his superiors to step in and reduce the tonnage FUSAG wanted to land between D+40 and D+60 to reduce the strain on motor transport during that critical window.¹⁴² After six more days of coordination and follow-up, Whipple felt confident to make a final recommendation to the boss, which basically validated ETOUSA's concerns, if not the method used to produce them.

Having studied the entire issue in great detail, Whipple now had an appreciation of the nuances behind any concrete answer, and he probably had a deeper understanding of the issue and its implications than just about anyone at SHAEF or ETOUSA. He started off his answer by hedging – truck requirements were directly linked to port capacities, the POL plan, and the availability of semi-trailers.¹⁴³ The obvious implication was that a moderate change to any of these would directly impact motor transport needs. He told Crawford that 141 truck companies in COMZ at D+40 “will probably be adequate” but that the situation at D+60 to D+90 remained indeterminate, “but no great increase in the number of truck companies will be required.”¹⁴⁴

¹⁴¹ Vissering, Staff Minute Sheet, Movement Sub-Section 3 and 4 to Log Plans, 6 May 44, 1-2.

¹⁴² Whipple, “US Tonnage at D plus 60,” memo from Log Plans to MG Napier, Chief of Mov and Tns Branch, 1.

¹⁴³ Whipple, “Truck Companies,” Log Plans to G-4 and Chief Mov and Tn Branch, 17 May 44.

¹⁴⁴ Ibid.

Whipple wrapped up his introductory material by stating: “The logistical computations upon which Gen. HANDY’s memorandum was based are so wide of the mark as to be completely worthless. The greatest shortage is not in truck companies, but in trucks.”¹⁴⁵ This comment indicated a growing sense of frustration within the SHAEF G-4 with quality of work they had inherited from SOS, ETOUSA, and COSSAC. The work done between 11 April and 17 May seemed to spend as much energy questioning ETOUSA’s competence as it did on fixing the truck problem.

It is also likely that SHAEF had confused themselves about what was really important here; they desperately needed the War Department to ship them 4,000 heavy tractors or provide an equivalent number of alternative vehicles between D+60 and D+90 to support operations beyond Normandy. COL Elliot, the deputy G-4 for Movement and Transportation tried to emphasize this point in the branch endorsement of Whipple’s work published on 18 May, but it is easy to see how the message might have been garbled. Elliot confirmed that 160 companies was the minimum number necessary by D+60 and that this would be sufficient through D+90 as long as “semi-trailers and other heavy equipment requested by OCOT, ETOUSA is (sic) not delayed.”¹⁴⁶ It was too late, because the heavy equipment requested by the OCOT was already delayed and there was no way the Army could deliver it in the next three months. Just moving the modest shipments promised by Handy on 29 April took until the end of August. Those who really understood the issue were very concerned, but they could not say so without equivocation. No logistician wanted to go on record predicting failure based on a shortage, and that was

¹⁴⁵ Ibid.

¹⁴⁶ Elliot, “Requirement - Truck Companies,” Movement and Transportation Branch to G-4, 18 May.

basically what Handy and Lutes were demanding before they would move heaven and earth to find heavy trucks and drivers.

Crawford closed out this last chapter of the pre-Overlord truck debate with a formal response to Handy written on 17 May. Crawford reported that if all the trucks promised were delivered, SHAEF would have just enough motor transport to see them through D+50.¹⁴⁷ The situation after D+50 was much harder to predict, but what might happen then could no longer jeopardize Overlord, since the lodgment area would be secure. Presumably rail would have picked up some of the load by then, and the lodgment would be too large for the Germans to eliminate. It is obvious that Crawford's team was not forecasting requirements needed to reach the Seine, much less eastern France. Planning forecasts developed since 14 April showed the Allies on the Seine by D+90 and not across it in any strength until D+150. Based upon his comments while attending his first SOS command and staff meeting where he outlined Montgomery's preferred way of operating, Crawford probably believed that the ground forces really would halt on the Seine until COMZ was sorted out, reducing a sense of urgency over the shortage of heavy trucks at SHAEF. Crawford thought SHAEF would have time to recover from any transportation problems during the pause along the Seine, and he did not consider what might happen if someone convinced (or forced) Montgomery to quickly surge into eastern France.

¹⁴⁷ Crawford to Handy, 17 May 44.

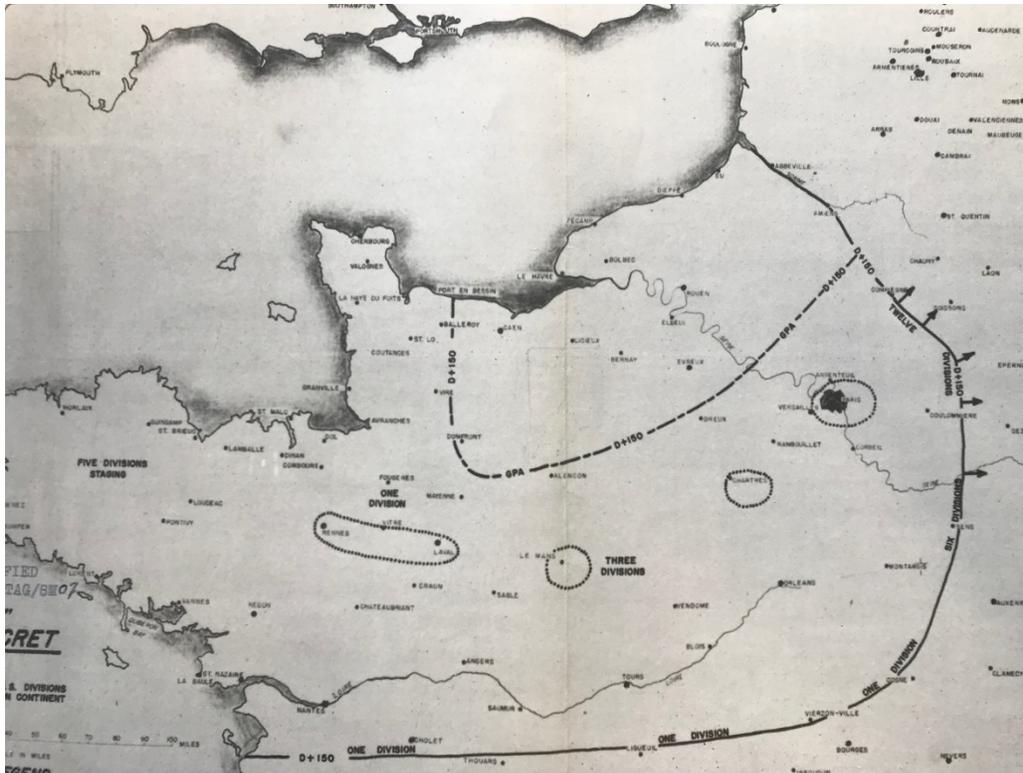


Figure 4.4: Allied planning forecast, D+150, as of 24 May 44¹⁴⁸

In contrast, there are a few indicators that Ross had initially planned to operate under much more challenging conditions. The first drafts of Ross' documents submitted to justify the transportation troop basis asked for forces necessary to reach and penetrate the Westwall before the rail network was repaired. These documents also projected truck companies operating 150 miles forward of the closest port or railhead, almost triple the doctrinal norm and double the SHAEF planning figures.¹⁴⁹ Only heavy trucks would be able to support combat divisions so far away from the closest ports and railheads. Eventually Ross convinced some officers at SHAEF

¹⁴⁸RG 489, UD 346, Box 1489, G-4 ETOUSA, Planning Directive Series H-2, 24 May 1944.

¹⁴⁹ COL Loren A. Ayers and LTC William F. Schultz, Jr, General Board Report 122, "Operation, Organization, Supply, and Services of the Transportation Corps in the European Theater of Operations" (USFET, 1945), 42. Draft justification documents received from ETOUSA, RG 160, Dir of P&O, Planning Division, Central Decimal File, Box 52, NARA 2. See the 400 group, "Truck" folder. The first justification in the file has "to the Westwall" in typed text, which is lined out in ink. It is impossible to determine how that objective got into the document and who decided to line it out.

that he was correct, but they could not convince Lee and Eisenhower to demand a solution from the ASF in time to support the breakout in August. Ross anticipated the correct conditions SHAEF would face at the end of August and early September and developed a solution that would have sustained the Allies through a penetration of the Westwall in early fall. But he could not overcome bureaucratic inertia and turn this vision into a field capability.

Ironically, as the window closed to reequip COMZ with heavy equipment, the British Army was completing a transition to 6- and 10-ton trucks in some of their general transport (GT) companies. By 22 April 21st AG had almost reached its goal of fielding 3,197 6-ton lorries and 1,778 10-ton trucks, even anticipating a surplus of 200 of the largest vehicles.¹⁵⁰ Reserve stocks for both trucks would be in place by Y plus 21. Thirteen truck companies supporting 21st AG were equipped with 10-tons, twelve companies had 6-tons, and 6-ton platoons were mixed in with the Army and Armored Division direct support companies.¹⁵¹ The superior British supply situation in August and September is often attributed to the shorter line of communications behind the lead divisions, but more efficient heavy equipment contributed as well.

All the studies bouncing around SHAEF looking at the adequacy of U.S. motor transport triggered a similar examination of 21st Army Group. The conclusion reached was that after D+90 Montgomery could no longer rely solely on motor transport.¹⁵² The command would need a major port closer than Cherbourg or rail support that could conquer some of the distance. The British converted all of their motorized assets into 3-ton platoon equivalents, allocating 80 directly to armoured divisions or using the truck crews to operate DUKWs, with 346 remaining

¹⁵⁰ "Progress Report for Q Branch, G-4 Division for week ending 22 April 1944," RG 331, SGS Decimal File, Box 30, NARA 2.

¹⁵¹ COL W.J.J Allen, "Annexe A, "Post-NEPTUNE Operations D plus 90," 5 Jun 44. RG 331, G-4, Log Plans Division, Box 249, NARA 2.

¹⁵² Allen, 3.

for army, army group, and RAF support.¹⁵³ Port clearance was the most intensive mission, consuming 42 mixed companies, followed by direct support to formations with 38.5. Static, line of communications, and RAF support consumed eight, five, and eight companies respectively. Bulk petrol would be moved by 7.5 specially outfitted companies. The distances anticipated by D+90 are surprisingly short, less than 30 miles from port to rear maintenance area depots and then between 22 and 87 miles to the further airfields and corps field or forward maintenance areas (FMAs).¹⁵⁴ Despite superior resources and shorter operating distances, the British worried as much as their American partners about crossing the Seine without restoring rail lines. Like the Americans according to the final U.S assessment, 21st Army Group had been provided adequate motor transport for Overlord, but the next step would require additional resources.

Obviously, the 17 May letter from Crawford to Handy did not stop SHAEF from worrying about trucks. As the conversation shifted away from heavy equipment and the total number of truck companies on the troop basis, SHAEF discovered that they had a 2.5-ton truck shortage. Problems with equipping 3rd Army had been anticipated, and ETOUSA knew they had another month or two before this became a crisis, but SHAEF discovered that units projected to land in France during the first days and weeks of the operation still had shortages, such as a 420-truck deficit at 9th Air Force.¹⁵⁵ SHAEF and ETOUSA worked together to develop a list of the units that should be filled up first; the document was approved by the SHAEF G-3 on 22 May.¹⁵⁶ Despite the fact that a shortage had developed in the first place, this determination of priorities showed how the relationship between the two organizations was supposed to work. It was also

¹⁵³ Allen, Annexe A.

¹⁵⁴ Allen, Annexe B.

¹⁵⁵ SHAEF G-4 Dairy/Journal, Q Branch, entries for 17 and 22 May 44. RG 331, SGS Decimal Files, Box 30, NARA 2.

¹⁵⁶ SHAEF G-4 War Diary/Journal, Q Branch, Requirements Section, week ending 27 May 44. The signed letter was sent to ETOUSA on 22 May 44. ETOUSA first raised the issue, in writing, on 8 May.

an example of good staff work completed in a reasonable amount of time, having taken fifteen days to go from identifying the problem to publishing a solution.

One outcome of the two months of continuous engagement between ETOUSA and SHAEF about equipment shortages was a deteriorating relationship between logisticians in the two commands. Moses and Ross seem to have come through with their reputations intact, but Crawford dismissed any attempt to coordinate with Stratton and Lord as a waste of his time. In defense of SOS, their earliest estimates were grounded on PROCO and not on the operational plan for Overlord. Revisions prepared by ETOUSA in March and April did not benefit from the advantages that SHAEF had, including the latest tactical information and a large pool of manpower. The fact that there were still problems with ETOUSA's estimates and the documents justifying them confirmed that no administrative staff could develop an operational concept of support if that group of officers was isolated from maneuver planners. SOS, or ETOUSA, could develop a solid troop basis, PROCO catalogue, base section structure, and concept of support only after COSSAC or SHAEF had provided an overall concept of operation and outline of a campaign plan. Because of their physical location and focus, SHAEF G-4 and the ETOUSA special staff collocated with them would always produce a better product than either the small team with Lord at the Selfridges Annex or the main staff back at Cheltenham. The only way to implement Lee's preferred theater organization was to collocate the portion of the ETOUSA staff dedicated to operational planning with SHAEF. Despite the size of the staff located at Selfridges, and despite their proximity to SHAEF, General Crawford and his team did not seem to value their input.

The War Department did not show the drive needed to follow through on the promises made by Somervell and Handy. By the end of August ETOUSA had received half of the heavy

tractors needed in theater, about half of the cab over engine (COE) 2.5-ton trucks, and less than ten percent of the 10-ton trailers.¹⁵⁷ The timely arrival of trucks designed to carry bulk fuel was a minor success story; by the end of July ETOUSA had close to 100 per cent of the requested 750-gallon 2.5-tons and had received a third of the 2,000-gallon trailers. By the end of August, the theater had 120 per cent of the smaller fuel trucks and 77 per cent of the 2,000-gallon version. This success story in fielding the bulk POL fleet was not replicated on the cargo side of the equation. As late as December 1944 ETOUSA was still missing half of the heavy trailers then believed essential, and a third of the tractors to move them, despite the production of another 27,000 heavy-heavies between August and December 1944. If the War Department had made quicker progress delivering the heavy cargo and fuel trucks that Ross first requested in August 1943, the impact in August and September 1944 would have been immeasurable.

The shortage of heavy trucks was compounded by a tardiness in deploying truck companies to Normandy, but the decision to prioritize combat formations over service units was made by Bradley and approved by Eisenhower. The initial plan for the troop build-up had called for 130 companies ashore by the end of July, but in practice only 94 made it by then.¹⁵⁸ The 1st Army frontloaded combat troops and displaced service units until later in the deployment flow when efforts to break out of the lodgment progressed slower than originally anticipated. As a result, at the start of the breakout after Cobra, COMZ was missing a third of its truck companies. The remaining companies landed in August, but even this minor delay must have worried the logisticians at ETOUSA and SHAEF.

¹⁵⁷ OCOT Monthly Reports, Aug 44. RG 498, UD 578, Box 3881, ADM 451, NARA 2.

¹⁵⁸ Ruppenthal, Vol I, 557-558.

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Table 24

SPECIAL VEHICLE REQUIREMENTS OF MOTOR TRANSPORT UNITS

T.C. E.T.O.

| | <u>ON HAND</u> | <u>EN ROUTE</u> | <u>REQUIRED</u> |
|---|----------------|-----------------|-----------------|
| Semi-Trailer, 10 ton Flat bed | 94 | 0 | 7,194 |
| Truck-Tractor, 4-5 ton, 4 x 4 | 0 | 0 | 4,167 |
| Truck, 2½ ton Cargo, 15' 6 x 6, Cab over engine | 955 | 0 | 2,128 |
| Skidtank, 750 gallon | 42 | 18 | 2,000 |
| Semi-trailer, 2,000 gallon | 274 | 22 | 1,030 |
| Truck, 2½ ton, 6 x 6, 750 gallon. | 77 | 66 | 588 |
| Trailer, 45 ton | 0 | 0 | 225 |
| Truck, 4 ton, 6 x 6, Wrecker | 185 | 0 | 185 |
| Prime mover, 12 ton | 0 | 0 | 114 |
| Semi-trailer, 5 ton Refrigerator | 75 | 0 | 75 |
| Truck, 10 ton, Wrecker | 10 | 0 | 10 |

STATISTICS BRANCH
TRANSPORTATION CORPS. SOCS. ETOUS.

Figure 4.5: Status of special vehicle requirements for ETO, report at end of May 44

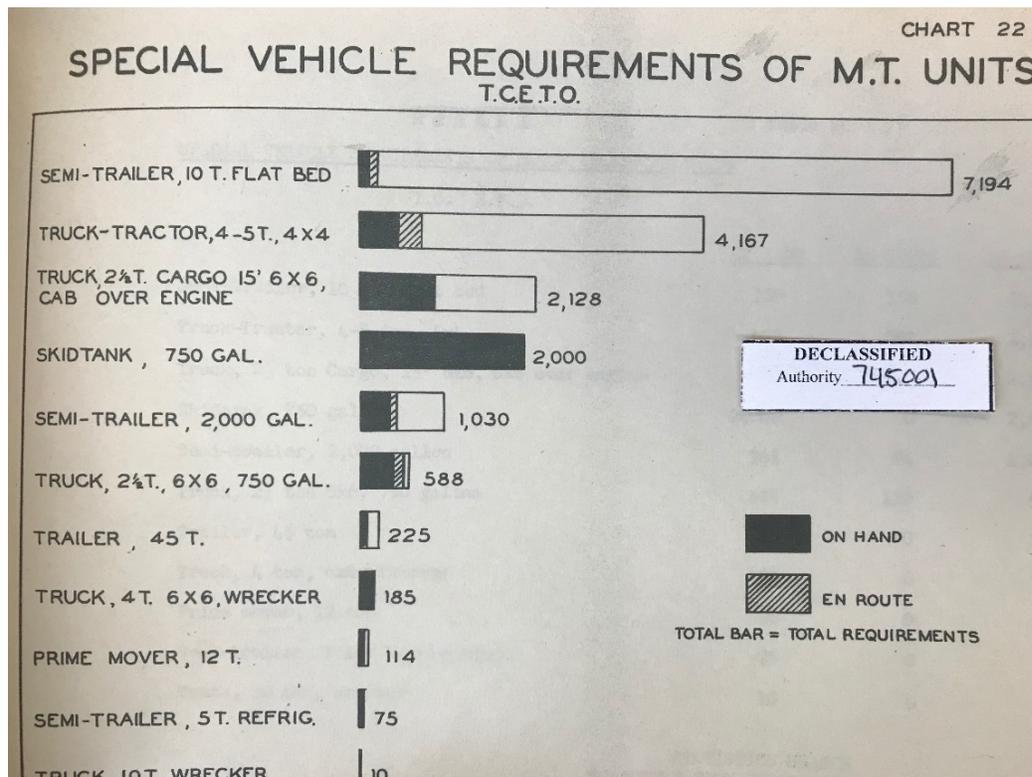


Figure 4.6: ETOUSA truck status, report at the end of Jul 44

Securing additional drivers for the trucks available proved to be another task at which the Army seemed incapable of getting out of its own way. In his original motorized transport proposals made in 1943, Ross had asked to increase the size of each QM truck company by 40 men. During a command and staff meeting in February 1944 Lee discovered that the recommendation had still not been addressed by the Army G-1 or ASF and got personally involved.¹⁵⁹ Back in the fall the War Department had refused to authorize the 6,400 men needed to provide two drivers per truck for the initial troop basis and made the reasonable suggestion that SOS find these personnel internally. SOS issued an order at the end of April directing each base section to provide a portion of the requirement; the majority of these men did not report to their respective QM companies until the second half of May.¹⁶⁰ Although adequate to meet immediate needs, this precluded a formal training program to teach these new men about preventive maintenance, safe driving, and improvised repair.

This examination of how the U.S. Army failed provide ETOUSA with a moderate amount of heavy truck companies by July 1944 leaves one with three residual inexplicable questions. It seems odd that the ASF held out for new production of the 5-ton 4x2 tractor to meet ETOUSA's requirements. Trucks built in May and June, if the program had remained on its original timeline, would still have addressed only about half of Ross' requirements. Why didn't the ASF reallocate some of the 20,000 heavy trucks already in the inventory, or send older models coming off the assembly lines during the first half of 1944 to the U.K.? Why were senior

¹⁵⁹ SOS C&S, 1 Feb 44. RG 498, UD 578, Box 3883, ADM 456, NARA II. Lee was upset that Ross had asked for only 40 drivers per company rather than 48, or one per truck assigned to a company. Ross pointed out that all his planning figures for Overlord assumed that only 40 of the 48 trucks would be operational at any one time. During this conversation Lee asked Ross if his request had cited the results of Lee's reconnaissance to Italy, where trucks were on the road sixteen to twenty hours a day. Ross explained that he had made it clear, citing historical data from both North Africa and Italy.

¹⁶⁰ "History of the MTS", 5-6.

leaders at ETOUSA and SHAEF so quick to dismiss the urgency of the issue and to accept the partial solution offered by General Handy on 29 April? Finally, why did it take so long for the portion of equipment promised by OPD to reach France, and why so long for the ASF to fill all of Ross's theater requirements? There are partial answers to all three questions in the historical record, but none of them are satisfying.¹⁶¹

One outcome of the battle not in dispute was the damage done to the relationship between the logisticians at SHAEF and at ETOUSA. By mid-May hints of open hostility if not contempt had emerged, a shift recorded by Stratton in his response to the reorganization initiative sent to Lord on 3 June. Lutes had noticed the same friction during his theater visit at the end of April and in the first week of May. SHAEF seemed to be growing increasingly frustrated with the poor quality of the work they had inherited from the organizations that had preceded them and with the incomplete answers they received from ETOUSA headquarters. Perhaps Crawford had decided that if he had to rework everything built by ETOUSA or if he was constantly referred to the special staff sections for technical data, it was time to cut out the middleman. To be fair to ETOUSA, they did not have access to the operational information necessary to develop the theater concept of sustainment, only minor supporting plans based upon the overarching structure developed by SHAEF and FUSAG. Inadvertently, the battle over trucks, the troop basis, and logistical support after D+90 had exposed the logical flaw among U.S. doctrine, Somervell and Lee's vision of the role of SOS or COMZ, and the primacy of the joint combined headquarters when it came time to synchronize maneuver and sustainment.

¹⁶¹ The hold-up in delivery of heavy trucks between August and November was largely based on insufficient discharge capacity at Cherbourg. The equipment was eventually shipped to Marseilles in November and December. There was a bit of finger pointing between Lutes and Lord/Stratton after the fact. ETOUSA claimed they could have unloaded the trucks sooner; Lutes stated that no one told that to the ASF. See Bykofsky and Larsen, 328, and Ruppenthal, 243. The other two decisions are more puzzling.

Blending logistics and maneuver could not be accomplished as a part-time job physically removed from the operational headquarters.

Problems with SOS on the Eve of Overlord

ETOUSA's reputation was under duress by late May 1944. SHAEF and FUSAG seemed to have lost a great deal of confidence in Lee, SOS staff and to a lesser extent in the various technical services. In early June Stratton noted a drastic increase in "hostility and interference in recent months" coming from the SHAEF and FUSAG G-4 sections.¹⁶² Stratton did not address the source of this hostility, but obviously there were problems. Did SOS know at the time which critical skills they lacked? Did the organization have significant flaws, or was it just unable to explain the difficult conditions it had operated under over the last year? Lee and SOS knew about some weaknesses because of a comprehensive inspection tour and resulting assessment provided by MG Leroy Lutes. What was more problematic was a cultural aversion to critical self-assessment that started with Lee and trickled down through his command. This flaw may have prevented SOS from accurately seeing itself and taking action to fix issues before they resulted in a crisis in August and September.

LTG John C.H. Lee seemed to be a man of great outward optimism. If asked in late June 1944 if COMZ was ready to perform its mission in France or had any fatal flaws, he would have doubtlessly answered "yes" to the first question and "no" to the second. What he actually believed would have been an entirely different question. In documents written during the war and interviews and reports compiled after the war, Lee seemed almost incapable of critical self-

¹⁶² Stratton to Lord, draft response to SHAEF reorganization proposal, 4 Jun 44. RG 498, UD 578, ADM 238, NARA 2.

assessment, either of himself or of his organization.¹⁶³ In contrast, the various General Board reports prepared by Ross and Moses were very honest and pointed out a number of areas where those leaders and their organizations could have done better while handling significant challenges. Lee's reticence in explaining himself or admitting when the command might have made a mistake surrendered the field to his critics. There are plenty of implicit and explicit charges against Lee and COMZ originating from SHAEF or 12th AG in the historical record and in General Board reports, but Lee refused to provide a convincing defense or counterargument of his own.

The reasons for Lee's approach are unknowable, but a few clues stand out. Lee was deeply religious, and he also did not believe in publicly criticizing individuals or organizations.¹⁶⁴ At a command and staff meeting on 2 August 1943, Lee vaguely addressed criticism of his chief of staff that had come to his attention, stating:

I love him like a brother, and because I love him like a brother, I resent anything that is ever said against him.... We are partners in a business. It is the greatest enterprise that you and I will ever engage in.... Anybody that says anything slightly about our partners or our brothers in this enterprise will find his remarks are resented.... Now the little stings and the little digs and the criticisms, the idle gossip that hurts tends to disintegrate the bond between us.¹⁶⁵

This negative view of criticism may have prevented productive self-reflection and may have interfered with Lee's ability to contribute much to lessons learned and to the historical

¹⁶³ He also preferred to avoid directly answering questions, at least in any depth. Forrest Pogue found him to be his most difficult charge while writing *The Supreme Command*, complaining in a private note that he could not get Lee to dedicate quality time, focus, stay on topic, or provide anything but the most superficial answers to questions. See copies of his original interview notes in *The Supreme Command* file at AHEC.

¹⁶⁴ Lee was Episcopalian, but demonstrated traits more common in fundamentalist sects. He did not drink, gamble, or play cards during the war. He went to services daily, and sometimes more than once a day, forcing his staff to join him. He refers to himself as "we" in his unpublished memoirs, not as a sign of arrogance as some historians claim, but as an outward sign that he had surrendered his life to God and Jesus and followed their lead in every action and decision made. Lee spent the last eleven years of his life serving in the Brotherhood of Saint Andrew, to include executive vice president and president.

¹⁶⁵ SOS C&S Notes, 2 Aug 43. RG 498, UD 458.

record at the end of the war. Another motive behind Lee's reticence to embrace critical self-evaluation was that any meaningful critique of COMZ would inevitably cast some blame back on Somervell or Eisenhower, two men for whom Lee had boundless respect and loyalty. It is hard to believe that every logistical shortfall of any significance could be exclusively blamed on COMZ. SHAEF or the ASF would have contributed in some measure to any major shortcomings, and Lee was not interested in volunteering that information to outsiders. Finally, Lee's stoicism, and ultimately optimism, at least when it came to issues beyond his control, were perhaps linked to his faith. Events would take their natural course, and, because Lee believed he was fighting on the morally superior side, matters of chance were likely to work out in favor of the Allies. Lee worked relentlessly to strengthen and prepare his command, but he refused to worry about what he could not control, leaving those concerns to a higher power.

Perhaps as a result of Lee's personality and his attitude about public criticism, COMZ's contributions to the General Board tended to be a bit shallow. One is forced to read between the lines and sort through poorly supported conclusions to move beyond the trivial. Often, when they took note of a problem, the authors offered no assessment of why the issue had arisen, what might have been done differently, or what were potential solutions. General Board Report 128, which covered the history of SOS in the U.K. and its efforts to execute Bolero, acknowledged only two major problems that the command experienced in France that it said should have been identified and fixed before leaving the U.K. These were universally followed depot accountability procedures and, also, a well-understood system to distribute POL.

Lord admitted in General Board Report 128: "Control of Depot Operations was a controversial matter never quite crystallized to the satisfaction of either the Base Section

Commanders, SOS Chiefs of Services, or the Depot Commanders.”¹⁶⁶ Figuring out exactly who could and could not issue instructions to each depot was probably the most significant problem. Lord pointed out that depots endured too many inspections – by general and service staff of SOS, by the local base and district staff, and by ETOUSA personnel on occasional visits. The reporting demands placed upon each depot followed the same three lines of authority, and each organization had its own ideas on the best way to run things in its chain of depots.

This theme was addressed by MG Lutes at the end of a ten-day visit to ETOUSA in late April 1944. He had noted that in general each service knew what it had on hand, but inventory methods varied from location to location and from service to service, and both the Signal and Engineer procedures were spotty at best.¹⁶⁷ As a result it took too long for SOS to figure out if it had a particular item on hand when asked by a base section or combat unit or if the item needed to be placed on order through the Port of New York. Littlejohn’s office had published numerous SOPs on stock control and depot management that were accepted as the standard for the theater, but obviously some services preferred to use their own tried and trusted methods. In theory this was fine – inventory experts at each depot and for each service generally knew what they had at each location and in the theater. But problems would arise if they had to turn that depot over to different personnel who were not familiar with their methodology, which was exactly what would happen during the consolidation of facilities in the U.K. after Overlord and on the continent as the ADSEC moved east to keep up with the combat units.

Stock control was further complicated by the existence of kits with imprecise inventory lists and also by problematic relationships between general and technical staff officers at various

¹⁶⁶ General Board 128, 35-36.

¹⁶⁷ MG Leroy Lutes, “Supply Organization and Procedures,” 27 Apr 44. RG 498, UD 578, ADM 238, NARA II. This was a five-page summary of his observations from a ten-day inspection tour of ETOUSA.

levels in the chain of command. Lutes noted that ETOUSA had found that a “considerable number” of maintenance items incorrectly believed to be in short supply were available as components within an amphibious pack.¹⁶⁸ Those items had not been recorded on stock records because no one knew they were in the pack, the inventory was imprecise or had gone missing, and no one had opened it until April. Of greater concern was the lack of trust and confidence among the deputy G-4 at Cheltenham, the base section G-4s, and the combat units they were supposed to support. No one trusted anyone -- the G-4 would bypass the base section staff and work directly with technical sections or combat units. Combat units would bypass the base section and work directly with SOS staff.¹⁶⁹ Base section G-4s did not have timely or accurate information on what was available in the depots within their footprint and could not extract that information from the technical services at any level. Despite Lee’s attempts to empower his base section commanders, Lutes noticed that everyone seemed to treat them as unnecessary obstacles among consumers, the technical services who knew exactly what they had in theater, and SOS general staff that matched prioritized requirements to material on hand or authority to order it from the U.S. Base section commanders who actually tried to synchronize service troops and the technical staff at their level to support their associated combat units were failing miserably as they were bypassed by SOS and combat formations. This did not bode well for the conditions expected in France, where decentralization and cooperation between base sections would be indispensable during offensive operations.

A byproduct of these problems with depot and stock control procedures was a recurrent need for sorting sheds in the U.K. and then on the continent. Sorting sheds were nothing more

¹⁶⁸ Ibid, 2. Like the British, the U.S. Army developed resupply bundles of mixed parts to support all the vehicles and equipment in a regiment or division. These were packaged for easy delivery to Normandy. There were parts within these packages that SOS was incorrectly reporting as critical shortages in the theater.

¹⁶⁹ Ibid, 2, 3.

than weather-proofed locations where improperly marked containers could be opened, inventoried, and repacked for onward movement. Obviously, this double-handling was inefficient and something SOS hoped to get away from eventually. However, operations in North Africa, in Normandy, and along the French-German border from 1942 to 1945 demonstrated that sorting sheds were a necessary evil, and the ability to set them up and operate them was a critical capability for COMZ. Sorting sheds would have been unnecessary if every unit handling supplies had been trained, was following the same detailed procedures, could keep inventories reconciled with the constant stream of new deliveries and issues, and was handling properly marked containers. In practice the system tended to fail under the friction of field operations. In France the doctrinal solution seemed to collapse when an organization worked with new partners and a superior headquarters for the first time or when they inherited disorganized facilities with inaccurate, or completely non-existent, inventories from service troops who were heading east to keep up with the advancing combat divisions.

A second process that SOS failed to master in Britain, and one that would hinder the Allied attempt to penetrate the Westwall in the fall of 1944, was control over the transportation and distribution of fuel and lubricants. The U.S. "...experiences in the BI did not...furnish a basis for evaluating the proper division of responsibility and control of POL supply and flow between SOS G-4, the QM service, and the Engineer and Transportation Services. Later, on the continent, this division of responsibility came to be a major problem and one that was to be changed several times before an efficient procedure was devised."¹⁷⁰ It was surprising that such a critical process, and one that was practiced for over eighteen months in Great Britain prior to the invasion of France, could not be finalized before it was used in combat. It suggests that

¹⁷⁰ General Board 128, 24-25.

ETOUSA did not have a thorough understanding of the challenges faced by the 1st British Army over the winter of 1942/1943 or of the steps taken by AFHQ and NATOUSA to meet them.

Both problems -- standardization in accountability procedures at depots and figuring out the nuts and bolts of fuel distribution -- showed a failure to anticipate requirements and impose operational discipline. Fuel distribution was more problematic because it was the type of work that only COMZ or a base section staff could accomplish. The task was difficult because it demanded the synchronization of four branches or services in order to work, and this integration could only be performed either by a specially appointed lead service or else by the chief of operations in a half-dozen base sections or at COMZ. It was exactly why Lee had created base section commanders -- to integrate the activities of various support troops in order to accomplish combined-service tasks. Because SOS did not develop, validate, disseminate, and practice a common procedure in the United Kingdom, they were forced to improvise under much more difficult conditions in France. Linked to the fact that the Allied advance stalled in September because too little fuel was reaching front-line divisions, it was a deficiency with massive implications.

Other sources might have helped SOS to identify important gaps in capability before their deployment to France. MG Leroy Lutes shared with ETOUSA two reports that he had written in April and May to capture his impressions after an extensive tour throughout the U.K.¹⁷¹ These observations along with some recommendations are more interesting than the items pointed out in GB Report 128 because we know Lutes' comments reached Lee and his staff in time for the command to take corrective action. Lutes and a small team of supporting staff officers visited

¹⁷¹ The timing of this trip, following immediately after the ETOUSA visit to the United States, suggested that the ASF might have been losing confidence in Lee and SOS around the same time that SHAEF and FUSAG were growing increasingly hostile.

SOS, FUSAG, Air Service Command, 1st Army, V Corps, ADSEC, and FECZ trying to gauge the health of sustainment preparation in ETOUSA. The result was a six-page open report as well as the “secret memo” shared only with Somervell and, one assumes, orally with Lee.¹⁷² The overall impression from both documents is that FUSAG was logistically ready for Overlord, that COMZ had a number of important procedures they needed to improve, and that their staff was saddled with two officers who could not measure up to their responsibilities and who needed to go.

Lutes had commented on stock control and interaction at SOS and base-section level. Now he addressed three other areas of concern including the relationship among COMZ, subordinate logistics organizations, and major combat units; problems with operational logistical planning; and weaknesses among key members of the ETOUSA staff. Lutes detected the same friction between ETOUSA and FUSAG noted by Stratton and Lord in early June; Lutes also mentioned Moses’ frustration over shortages and a lack of transparency within SOS procedures that were used to determine the allocation of controlled or critical items between the Air Force, Ground Force, and SOS.¹⁷³ Lee was surely satisfied with his procedures, especially in the light of the decision to pool and issue PROCO material based on who needed the equipment first. But without a window into how those priorities were decided, FUSAG felt slighted. It was not a question of decision-making, but one of process and transparency. In France Lee continued to resist external pressure to hold periodic prioritization boards where 12AG and USSTAF were welcome; he seemed to loathe the inefficiency, and perhaps the voluntary reduction of authority,

¹⁷² In the note to Somervell Lutes confirmed that he had not shared his negative opinion of some of the leaders within ETOUSA with Eisenhower, but he mentioned discussing the issue with Lee.

¹⁷³ Lutes, “Supply Organization and Procedures,” 2.

that this might present.¹⁷⁴ But boards were common tools within the Allied military in 1944, and they had proven very effective in prioritizing scarce assets in North Africa without generating bad feelings.

Some of the breakdowns in communication mentioned by FUSAG were echoed by 1st Army, where staff officers noted that they always had to pull information from Cheltenham and base sections rather than automatically receiving periodic updates. Lutes pointed out that he had heard the same complaint leveled against district transportation offices as well. He found local transportation sections to be competent, but they did not embrace the need to proactively engage the combat formations they were supporting.¹⁷⁵ In the private memo Lutes wrote exclusively for Somervell, Lutes added a few other problems. SOS lacked procedures for expediting critical items from dockside to depots and the troops.¹⁷⁶ There were fundamental problems with the centralized stock control systems at SOS. Lee's team seemed to do fine with routine procedures, but, when it came time to step outside established norms to handle an emerging crisis, it became clear that they had not anticipated the problem and had not organized teams ready to solve them.

Lutes' rebuke of operational planning conducted to date was even sharper, and he blamed both SOS and FUSAG. He thought that Plank and Moses had been too passive by waiting for someone in authority to provide definite tonnage allocations rather than developing estimates of their own. They also had made insufficient progress in determining how requisitions would flow from 1st Army up to COMZ through the ADSEC. He was worried that he had seen no detailed assessment of how the ADSEC intended to jump from handling 15,000 tons of supplies daily in

¹⁷⁴ Eisenhower asked Lee to run a periodic ETOUSA manpower utilization board, an idea Lee resisted until directly ordered to do so. Eisenhower eventually put Crawford in charge of establishing a system to determine which units could or could not billet in Paris after he lost confidence in Lee's objectivity.

¹⁷⁵ Ibid, 4.

¹⁷⁶ Memo, Lutes to Somervell, 8 May 44. MG Leroy Lutes Papers, DDEPL.

the U.K. in March to dispersing 24,000 tons daily by D+40 in France. He also found nothing to indicate that COMZ understood just how difficult managing spare parts was going to be, and he offered three concrete solutions to how to reorganize the staff to better handle the surge of detailed work it would require.¹⁷⁷ Privately Lutes encouraged Lee to get more involved in future planning and to supervise the computation of requirements that formed the basis of all theater sustainment projections.

Echoing concerns about favoritism among the SOS staff and their inability to remain neutral when establishing priorities, Lutes noted frustration within the ETOUSA Office of Transportation. Officers there complained of constant pressure by SOS and other services for preferential treatment and accelerated delivery of their cargo, resulting in friction with agencies that thought they were constantly being bumped to the bottom of the list. The recommended solution was simple: tighter supervision at headquarters ETOUSA to enforce theater priorities held by the theater and add transparency to the process. Mentioned in the private memo but not in the public report, Lutes also advised Lee to establish a larger and more competent LNO section at SHAEF. Lutes did not state the underlying purpose of the team nor suggest the problems such a step might help solve.¹⁷⁸

Lutes saved his most explosive comments for the end of his private letter to Somervell. In early May he recommended that Lee relieve the chief of staff and G-4 at ADSEC and that Lord and Stratton be removed from the same positions at ETOUSA. He urged that Lee replace

¹⁷⁷ Lutes, "Supply..." 5. These concerns took up almost all of the fifth page of the report and reflected his appreciation of the importance of the issue after two and a half years of experience in the job. Lutes suggested the solution was to create a special portion of the staff among SOS, base sections, and technical services staffs dedicated to the problem. He also recommended increasing the reserves from 75 to 90 days and refining theater planning figures as operational experience provided greater clarity on consumption rates.

¹⁷⁸ One can only speculate that Lutes detected a gap between the two organizations, a possibility supported by the lack of ETOUSA input to SHAEF sustainment planning between March and May. Regardless the reasons behind the recommendation, Lee implemented it.

Lord with BG Littlejohn, the chief Quartermaster. Lutes explained that he had spent much of the last week teaching Lord and Stratton how to do their jobs and concluded that Lord did not know how to harness and drive a large staff. Lutes had obviously discussed the issue with Lee, because the SOS commander had defended Lord on the grounds of his positive relationship with Eisenhower, Smith, and the rest of the SHAEF administrative staff. In the end, Lutes' recommended personnel changes at ETOUSA and ADSEC were not carried out, and this was most likely the correct call. Changing what were in essence the two most important staff positions in the two essential logistics nodes a month before Overlord would have been a drastic measure that could have been justified only by gross incompetence.

It is worthwhile to add a word of caution about Lutes' observations. His experience with logistics and managing large organizations was recent. His most significant duties prior to joining the ASF in early 1942 was a short period in command of a coastal artillery brigade, a long assignment with the National Guard bureau, and about two years as first the G-4 and then the chief of staff for 3rd Army in Atlanta. Lutes managed a massive and diverse workload in the ASF and was in constant contact with SOS and theater leaders, but he had no practical experience with logistics in combat. Lutes had an excellent reputation as a smart, honest, hardworking, and effective officer and manager, and he was considered as a replacement for Lee on two or three occasions. But Lutes' comments were likely to be dismissed or modified by someone like Larkin, Crawford, or Hughes as those of someone who did not understand the friction and competing priorities that came from working with the British and maneuver commanders. We can see that Lutes had identified a few key issues that would have a drastic impact in France, while missing a few others. Given the limits of the technology of the time, having perfectly accurate and up-to-date inventories at the theater and base-section levels was a

fantasy. Lutes accurately noted the friction that traditionally develops between any sustainment organization and the combatants it is supposed to support, and he offered methods that SOS might use to restore a measure of faith and confidence among the fighters. His insightful concern centered on the way in which ETOUSA had rendered themselves largely irrelevant to operational planning at SHAEF and FUSAG and the steps that might contribute to reversing that trend.

Public criticism of SOS/COMZ on two major occasions in 1944 was balanced by votes of confidence from Somervell and Eisenhower. There were rumors throughout the war that Lee was close to being fired, but both of his bosses continued to support him until the end of the war. In an end-of-year summary to Marshall on 13 December 1944, LTG Devers wrote about Lee and his command: "The S.O.S. has accomplished much. It has been able to keep ahead of the peak loads, has worked well with the British, has a fine organization and is well-disciplined.... Lee has been particularly aggressive and efficient and is responsible for the fine condition of his organization."¹⁷⁹ Devers was never one to criticize a subordinate in writing, but he was also not the type of person to keep weak officers in key positions. Doubtlessly SOS had its share of mediocre officers, broken systems, and some aversion to deep introspection at the senior level. But it also had its strengths, and it enjoyed the professional confidence of Eisenhower and Somervell.

Conclusion

The ETOUSA SOS was a remarkably successful organization during its two years in the U.K., at least in the execution of the core tasks associated with Bolero. Starting literally from

¹⁷⁹ Devers to Marshall, 13 Dec 43, box 11, DP, in Wheeler, 236.

scratch, Lee built up an effective organization while trying to turn concepts into reality in a complex environment. There was no doctrinal script, nor were there standing operating procedures or established tables of organization to govern what Lee was trying to accomplish in the ETO. In many ways, the methods directed by Marshall and Somervell went against doctrine and professional officer education and experience by trying to assign the theater special staff to Lee. Tighter integration between the SOS and theater special staff was needed in order to break up the stove-piped technical services and to reform them into combined-service commands at every echelon. This approach offered the opportunity to decentralize logistical support and to create a more flexible and responsive sustainment structure. But because it was new, not addressed by doctrine, and not taught in military schools, it was a very difficult task that was resisted by traditionalists and others with a vested interest in older or alternative systems.

Despite these difficulties, Lee forged an integrated command capable of issuing instructions and monitoring compliance from Cheltenham to five base commands and then down to regional and district offices. SOS helped identify and fix the numerous logistical mistakes identified during Torch, many of which originated with the Port of New York and the ASF. SOS trained and retrained its people, demonstrating tremendous flexibility in order to accomplish its most important mission during each phase of its existence in the U.K. Lee demanded discipline, honest feedback, and a commitment to learning and to getting better. The command sought out information from active theaters, and it sent numerous orientation missions to North Africa and the Mediterranean. Lee led the U.S. Army by creating a powerful office of transportation, transferring control over motor services to Ross' team, and approving the creation of provisional units to coordinate and lead truck companies in France. Lee embraced the opportunity to learn from the British, constantly inviting them to inspect and address his units, and endorsing their

idea of creating the Joint Q Planning Course. After a rough start, SOS pulled off Bolero, packing 1.5 million Americans into Great Britain before June 1944 and building the barracks, depots, training sites, airfields, and headquarters to support their work. It was an impressive list of accomplishments.

When it came time to expand beyond the functions associated with reception and garrison duties, SOS stumbled. For whatever reasons, Lee could not replicate his success with Bolero in the planning and preparation for Roundup. The core team from within SOS remained aloof from the dirty details being hammered out at COSSAC, and the quality of their requests back to the War Department suffered as a result. It was as if Lee and SOS could not envision how the mission would change once they were in France, and therefore how the procedures that worked well in the U.K. would have to be replaced. SOS was consumed with the present rather than passionately preparing for the future. This made sense because so little of the staff had participated in an active campaign, and a two- to three-week observation tour is not the same thing as living in actual combat conditions with its associated pressures and responsibilities. The result was a command that was poorly informed about the sustainment plan for Overlord and had no plan for how to reconfigure in France. There were no approved SOPs explaining how procedures would change once in combat, or much drive to train for those tasks prior to heading across the Channel. SOS was a garrison command in what amounted to a safe rear area, and this produced a culture clash when they were forced to work together with combat veterans returning from the MTO.

This was exactly what happened throughout the summer and fall of 1943. The result was a slow erosion of SOS's authority, reputation, and trust. This development was not completely fair, but neither Lee nor Devers did anything to send their people (other than Ross) to the MTO

for extended duty or to rotate experienced logisticians into SOS. For SOS's sake it was a shame that Lee did not establish a closer relationship with Crawford and learn from him. Despite these limitations, ETOUSA and SOS did a remarkable job in securing an effective troop basis for Overlord, with all the equipment and material necessary to launch and sustain the invasion, with only a few problem areas. Shortages of artillery ammunition could not be exclusively solved by ETOUSA, but the failure to deploy more heavy trucks and pre-position the material necessary to build the POL pipelines would prove to a major mistake. It was not exclusively the fault of SOS, but it could be argued that Lee should have done more within command channels in the winter and spring to generate options. Lee did so with other issues, so it is possible that he did not understand how important both projects were until it was too late to address the material shortcomings that would hobble their effectiveness.

As it got to work in February and March 1944, SHAEF brought fresh eyes and a more comprehensive understanding of what the campaign in France was likely to look like. As the SHAEF G-4 worked to extend the logistical support plan beyond D+90, his organization was forced to go back and critically examine the estimates and supporting plans developed by COSSAC, FUSAG, and SOS. In general, ETOUSA/SOS had secured a healthy balance of combat, air, and service forces and the equipment necessary to succeed in France. A few critical shortages caused quite a bit of last-minute activity, none more so than the storage of truck companies or heavy equipment for the units that were available. As a result of reviewing the work completed by ETOUSA, some leaders at SHAEF emerged with a growing sense of exasperation with the perceived failures of the SOS staff. A shortage of artillery ammunition and heavy trucks would have a significant impact on Overlord, but perhaps the most important result of the reassessment of the support plan conducted that spring was a widening gulf between the

SHAEF and ETOUSA logisticians. By late May the common perception at SHAEF and FUSAG seemed to be that one was better off bypassing Lord and the ETOUSA staff and going directly to the special staff sections. This might have been driven by personality clashes, but more likely it was really about finding the officers who had the operational details at their fingertips.

Moreover, because the technical services were more deeply engaged with planning, they tended to be of more value than the general staff at SOS to their SHAEF and FUSAG counterparts.

The return of Eisenhower accelerated a few trends that had emerged during the three months of Devers' command. Maintaining both ETOUSA and SOS was counterproductive; both organizations had very similar missions and there not enough experienced staff officers to probably man both commands. There was no question that Eisenhower and the team from the Mediterranean would use SHAEF as the sole integrator of theater and joint maneuver and logistics and that they would look to FUSAG (with ADSEC and FECZ) to do the same on the continent, at least until the end of the initial phases of Overlord. Eisenhower looked to Lee and the newly consolidated ETOUSA staff to replicate the function of NATOUSA: routine coordination with the War Department and efficient management of the rear areas. He did not need or want another American headquarters standing between him and the field forces or trying to replicate the planning functions mastered by Gale and Crawford. Eisenhower did expect Lee to run COMZ in France, but the formal division of sustainment responsibilities and anticipated transition dates among 12th Army Group, ETOUSA and SHAEF remained vague throughout July and August 1944.

But on the eve of Overlord, there were already indicators that COMZ might struggle in a few key areas. By May 1944 it was already obvious that Lee and his staff had problematic relationships with their counterparts at SHAEF and FUSAG; Lutes worried they would carry

over, might get worse, and had the potential to interfere with effective cooperation on the continent. More importantly, Lee and Crawford either did not have much influence on decision-making in SHAEF or chose not to exert it very often. COMZ had no experience as a field coordinating agency, and the base sections and special staff could not fill this vital role for them. Lee would confront time-sensitive operations in the chaos of combat conditions for the first time ever in France, and the command was utterly unprepared for the adaptation needed to thrive under these circumstances. Finally, Lee and Ross had taken steps to centralize, organize, and equip their motor transport forces, but that area remained one of grave concern for all experts who had studied the issue carefully. Until the railroads and POL pipelines could be pushed up to and over the Seine, there would be a menacing gap between requirements and lift capacity that might bring eastern movement to a halt. Everyone expected the Germans to fight a series of staged withdrawals to successive river lines that should allow the Allies to restore the lines of communication right behind the armies. But if a rapid advance proved possible, then distribution of fuel, food, and ammunition might become a major problem. It would be terribly important to repair and extend rail and POL pipelines as quickly as possible and to manage truck companies centrally to get the most out of what resources COMZ had available under these circumstances.

Chapter 5 - Gale's Struggle to Match Ends to Means

By late May 1944 it was obvious to a number of senior leaders in Great Britain that the lack of combat experience in ETOUSA/COMZ, among other concerns, would require other organizations to carry more of the burden than might technically be their responsibility. Bradley, Moses, and other officers at FUSA/FUSAG would take up the slack during the early weeks of the campaign, while SHAEF focused on integrating the joint team and fusing operational maneuver with large-scale logistics. General Humfrey Gale needed to scale up the systems he had put in place in North Africa and the Mediterranean to an entirely new level, all while trying to gently guide the two national requisition and distribution systems with much less formal authority than he had enjoyed in 1943. This chapter outlines the systems Gale put in place at SHAEF, how those processes fared during the early weeks of the campaign, and how they changed in response to the rapid increase in the tempo of operations after the breakout at St. Lô.

At the heart of the chapter is an examination of the critical breakdown of the system LTG Gale put in place as the Chief Admin Officer at SHAEF, a staff process that was designed to link potential operational objectives to logistical limitations and requirements. But between 25 August and 12 September 1944 the conduct of the Allied campaign was largely divorced from any deeper concerns about its long-term logistical viability, and this conflict was not truly resolved until Eisenhower forced Montgomery to accept the clearing of the Scheldt as the top Allied priority around the middle of October. During the pursuit Eisenhower largely ignored the logisticians at SHAEF and the advice of Montgomery, preferring to authorize the simultaneous advance on half-a-dozen corps level objectives. With this decision, Eisenhower almost guaranteed he would accomplish none of them before the recovery of the German Army just short of the Westwall. Partially acknowledging his mistake, after 10 September Eisenhower

generally prioritized Montgomery's thrusts to cross the Rhine in the Netherlands while hoping 2nd Canadian Army could simultaneously clear the approaches to Antwerp. But Eisenhower, abetted by well-intentioned advice from Bradley and Lee, could not curb his enthusiasm for keeping the enemy off balance by attacking multiple objectives simultaneously, inadvertently ensuring that no attack launched in September had the weight and logistical legs required to achieve a decisive success. Gale belatedly realized he could not provide his commander with better logistical advice because of the disfunction occurring in COMZ, a problem that could only be resolved by SHAEF taking over the last important functions that had been retained by Lee.

This period of time and sequence of events may well be one of the most thoroughly examined subjects in the history of World War Two. What is different here is that we will examine the causally-linked decisions of 25 August, 10 September, and the backsliding of 12 September within a context framed by similar decision-making that occurred in the months prior to Market Garden, and during the six weeks after the British escape from Arnhem. What has been missing in the past is an understanding of exactly how SHAEF made decisions that required a blending of the selection and timing of maneuver objectives while acknowledging and addressing the requirements imposed by logistics, and context of how the three sub-phases of Overlord influenced each other.¹ Since we will see that Eisenhower largely listened to his logisticians up to the 25 August crossing of the Seine, what changed between then and the decision to force Montgomery to put his main effort into clearing Antwerp? What role did the promises of COMZ (and the Allied Expeditionary Air Force and specifically CATOR) play in unleashing Eisenhower's optimism, and why did Gale not anticipate the gap between what Lee promised versus what could be delivered? Examined across a wider timeframe, one realizes that

¹ D-Day to Cobra, Cobra to Market Garden, Post-Market Garden to the opening of Antwerp.

SHAEF had a healthy process to funnel integrated logistics and maneuver concepts to senior leaders to aid their decision-making, and that Eisenhower generally followed their advice, perhaps too much so, until the Allied crossing of the Seine, when things changed fundamentally for about two months. Determining exactly why this happened is worthy of our attention.

In the period between the seizure of Paris and Montgomery's confrontation with him on 10 September, Eisenhower indulged his preference to attack on a wide front, a method designed to keep the enemy on the run everywhere, thus preventing the formation of any pockets of resistance that might threaten the Allied flanks or rear area. If logistically sustainable, it was an approach with significant advantages over deep and narrow thrusts by smaller elements. But on 10 September Eisenhower was forced to acknowledge that he no longer had the logistical capacity to attack everywhere at once, and agreed to prioritize Montgomery's northern thrust. Two factors soon caused Eisenhower to reconsider this decision – Gale and Lee demonstrated that not all of the transportation capacity of the theater could be funneled to support Montgomery exclusively, and Bradley convinced Eisenhower that Patton should continue to advance with whatever portion of the supplies the theater distribution system could provide. Regardless the merits of, and the recriminations that eventually followed, the decision to keep 12th Army Group on the attack in September, Eisenhower accomplished only one of his five operational objectives before the pursuit came to a permanent halt in the face of winter weather – the seizure of Brest.²

After Market Garden had shot its bolt, staff officers at SHAEF waged a minor guerrilla war with 21st Army Group to regain control over the direction of the ground campaign. These efforts culminated around mid-October when Eisenhower acknowledged that theater logistical

² The others were opening Antwerp, getting a bridgehead over the Rhine, threatening the Ruhr to the west of Köln, threatening the Saar between the Moselle and the Rhine.

requirements had to trump operational maneuver objectives designed to reach and cross the Rhine, triggering a decisive showdown between Eisenhower and Montgomery (and his supporters at the War Office). The Allied campaign in France over the summer and fall hinged as much on getting integrated maneuver and logistics appraisals in front of commanders to guide good decision-making as it did on the battle of egos between Eisenhower and Montgomery or in the clash of national approaches to the best way to conduct operational campaigns. SHAEF had a decent system to keep Eisenhower informed of the logistical implications of his choices, a system he heeded through mid-August. But starting on 25 August Eisenhower was much more comfortable facing the risk that the sustainment system might collapse than Montgomery or the administrative staff at SHAEF were willing to face. Some of this risk Eisenhower accepted from a position of ignorance, the result of deliberate misinformation, made up numbers, or admissions of cluelessness passed on to SHAEF from COMZ and 12th AG. Gale was surprised during this crucial period because he had trusted Lee and believed the information fed to him by ETOUSA. In the course of September Gale recognized how lost COMZ was, and took steps to shift key functions up to SHAEF, to include direct supervision over specific special staff sections at ETOUSA, to prevent these breakdowns in the future. After the disappointment of Market Garden and lingering disagreement over the relative priority of clearing the Scheldt, Gale set out to regain his dominant position, both in the accuracy of SHAEF's understanding of the logistics situation, and in his ability to guide Eisenhower by presenting operational advice that tempered theater goals with the limitations imposed by supplies and transportation.

Building a New Team

It is easy to forget just how little experience the SHAEF staff and command group had working together as a collective body by the summer of 1944. The headquarters had been created through a hasty marriage of COSSAC, those portions of ETOUSA focused on Roundup, and the circle of trusted subordinates Eisenhower brought with him from AFHQ. SHAEF's subordinate service commands were created using components from various British Home Forces, whose leaders had been selected by the British chiefs of staff with no input from Eisenhower. Everyone had about two months to get to know one another and try to mesh the two systems of procedure inherited from COSSAC and AFHQ before the headquarters was overwhelmed by detailed planning and preliminary operations designed to make D-Day a success. Eisenhower knew and had worked with all his service chiefs for Overlord while serving in the Mediterranean, other than Leigh-Mallory. Eisenhower's unfamiliarity with Leigh-Mallory was mitigated by the transfer of Tedder and Spaatz from North Africa to the U.K., where Tedder was assigned as the deputy command of SHAEF and Spaatz assumed command of a new organization charged with synchronizing the activities of 8th and 15th Air Forces. Working with Churchill, Eisenhower managed to marginalize Leigh-Mallory when he transferred effective control of the air campaign to Tedder in February, and he looked to Spaatz to synchronize U.S. strategic and tactical airpower in support of the Overlord campaign. A less pressing, but eventually critical, concern was Eisenhower's professional relationship with Montgomery. Eisenhower had always benefited from the presence of a British middleman between him and Montgomery in North Africa and Italy, but in France Montgomery would answer directly to SHAEF. At some point during the campaign Eisenhower would assume control over ground operations from 21st AG, a delicate endeavor under the best of conditions. Like Leigh-Mallory,

Montgomery was not his first choice as a subordinate commander, but Eisenhower believed in his own ability to manage the strong-willed and popular British general and secure his cooperation with Bradley and with leaders of the other services, just as he had managed to do with the command team he had inherited in the Mediterranean.

In addition to coordinating the joint campaign and eventually taking over control of ground operations, Eisenhower had to reconcile the conflicting priorities of the combat commanders with those of his communications zone, specifically LTG Lee and the staff at ETOUSA/COMZ. By mid-May 1944 there were already clear indicators that friction existed between Lee and the logistical teams at FUSAG and SHAEF, and there were hints that COMZ might not be up to the task of controlling supply operations in France. A more astute observer might have concluded that each of these three agencies believed it had primacy over the coordination of logistical support to the armies once on the continent, but none of them had the experience to do an effective job right away. Exactly how COMZ, FUSAG, and SHAEF would coordinate with one another and the specific sub-set of the theater logistic mission each organization would control remained vague. Work conducted by SHAEF in April and May led them to think that the joint-combined staff would have to play a prominent role in operational planning and managing coordination between the COMZ and the army groups. But this was a task SHAEF was not organized or trained to accomplish and one that Lee might refuse to cede to their level.

What were the mechanisms for distilling logistical problems effecting SHAEF and funneling them up to the command group prior to and during the first five months of the campaign in France, and were they effective? It is difficult to determine exactly for two reasons. First, Eisenhower acted decisively to ensure that his version of reality became the official

narrative of the fall campaign. In January 1945 Eisenhower provided an extensive interim report to the Combined Chiefs of Staff that set the tone for subsequent reports and official histories published over the next three or four decades. Eisenhower advanced his agenda with this document, which included omissions, partially accurate excuses, and a few out-and-out lies designed to protect his own reputation and preserve his freedom of action in the spring campaign. Second, any criticism of Eisenhower's performance as the commander of ETOUSA must acknowledge that he was also the ground campaign coordinator after mid-August 1944 and the director of the theater joint campaign, and he was constantly reminded of the political implications of military operations by Marshall and Churchill. It eventually dawned on some observers, both during and after the war, that Eisenhower and Bedell Smith both tried to do too much themselves. The fact that Eisenhower was personally supervising too many tasks was a major contributing factor in some of the problems dogging SHAEF during the fall campaign. But the same critics who realized that Eisenhower was trying to do too much himself were short on realistic solutions of how to delegate any of these responsibilities to someone who was capable and acceptable to both the British and U.S. senior leaders.

Despite organizational overlap and Eisenhower's tendency to saddle himself with too large a span of control, SHAEF was exceptionally well positioned to manage the integration of theater logistics and operational objectives. Smith and Gale were efficient and effective officers who had already worked together for almost eighteen months by the time SHAEF was officially established in early February 1944. One of Gale's first steps once he was settled in London was to create a logistical planning section and an independent joint plans section. Gale had learned the hard way during the preparation for and early months of executing Torch that both capabilities were essential at the joint-combined level. Crawford was a new addition to the

logistics team, but he had combat experience from North Africa, six months of familiarity with how ETOUSA and COSSAC operated, and a reputation among his peers as a strong officer. Harold Bull, the SHAEF G-3, understood the importance of both the G-1 and G-4 functions and sought out and listened to their advice. Finally, Eisenhower, Bradley, and the U.S. army commanders respected a number of their key logisticians, including Gale, Crawford, Larkin, Moses, and Plank. It is also obvious, by reviewing various messages sent throughout the campaign, that these officers had frequent and easy access to their commanders, who tended to absorb, agree, and act on the recommendations of their logisticians.

The other side of the coin was that there were officers who were not trusted at SHAEF or among the army groups. Among them were Lee, Lord, and Stratton, some of the base section commanders, and the heads of special staff sections in ETOUSA/COMZ. SHAEF had figured out how to package information to meet Eisenhower's needs by early June, but they still had a long way to go to figure out how to effectively coordinate with the armies and COMZ. Hindered by the limitations of communications technology of that era, logisticians struggled to stay abreast of current developments and coordinate with their peers. The challenges of maintaining currency and keeping open effective dialogue were made that much harder because maneuver and sustainment staff officers tended to occupy different and widely dispersed headquarters. If that was not enough, advanced command posts manned primarily by the combat-oriented staff sections moved frequently to remain fairly close to Eisenhower, Montgomery, and Bradley. As the fall campaign began to slow down in September and October as a result of logistical challenges, SHAEF realized that they did not have procedures in place to drive well-informed decision-making. Faced by the failure of COMZ to recover its balance and start doing its job effectively, SHAEF embarked on a crash program of extracting periodic reports, hosting

coordination meetings, and dispatching liaison and inspection teams to subordinate organizations. SHAEF discovered that in order to solve the logistics problems they faced in October the command needed to exert tight control over the requisition and distribution chain. It also dawned on SHAEF that they had not established the administrative procedures and did not have the communications gear needed to extract the detailed information that was a prerequisite for effective management of theater logistics. Because COMZ had failed to develop this system, and because the effects of its absence were immediately felt at their level, SHAEF stepped into the gap, but not before the opportunity to break through the defenses of western Germany had already passed.

What were the concrete results of SHAEF's attempts to integrate maneuver and logistics during the fall campaign? The various opinions about the merits and weaknesses of the conceptual framework of Montgomery's narrow thrust versus that of Eisenhower's broad front are well documented by historians. Most historians ignore the failure of the SHAEF and 21st Army Group staffs to seriously consider what would happen if the operational pause along the Seine did not occur. Everyone at SHAEF had convinced themselves that the command would pause on the west bank of the Seine for a couple of weeks while the ports in Brittany were opened and rail service restored. Plans were developed for Allied operations beyond the Seine, namely Lucky Strike, but they did not have contingencies to deal with an early collapse of the German Army west of Paris or to sustain forces with only trucks and cargo aircraft. When these conditions emerged, Montgomery and the staff at SHAEF recovered quickly and presented realistic recommendations to Eisenhower, but they could not penetrate the bubble of optimism that had overtaken the U.S. commanders. The voices urging caution and demanding ruthless prioritization that emerged in late August through mid-September were almost unanimous at

SHAEF and 21st AG, but they were undone by overly optimistic estimates and recommendations delivered by Bradley and Lee on 12 September. At the same time Montgomery and the SHAEF logisticians were urging him to focus on one or two key objectives, Eisenhower tried to capture Brest, penetrate the Westwall and Rhine with three separate armies, and clear the approaches to Antwerp. Around 23 August Eisenhower believed that he could accomplish all these objectives at the same time, mainly because any sort of effective resistance by the Germans had evaporated. By 9 September Eisenhower realized that he needed to focus on opening two or three major ports, but he allowed Montgomery to talk him into prioritizing Arnhem over Antwerp, and Bradley was left continuing to try to reach Aachen, Metz, and Nancy before moving on to the Rhine. The results gained by these five simultaneous operations were disappointing everywhere other than Brest, and SHAEF was forced to settle in for another long, slow campaign of attrition to break the Germans along their western ramparts. He had received good if somewhat pessimistic advice from his logisticians since the landings in Normandy, but in the last week of August Eisenhower chose boldness over caution and reached for ultimate victory in one decisive stroke. Around 10 September, he admitted that this approach would not work and that that he needed to mass his resources to achieve one or two operational objectives. By this time, it was perhaps already too late to restore mobility and inflict a crippling blow to German morale and the weapons factories in the Ruhr. It was a very close-run affair, but SHAEF failed their first critical test between 23 August and 5 September. Then they failed their second critical test when they poured resources into the siege of Brest and diversionary attacks by 3rd and perhaps 1st Army at precisely the time they should have been straining every nerve to open Antwerp and perhaps penetrate the Westwall in one critical location.

Controlling Logistics at SHAEF

The administrative staff at SHAEF developed a few highly competent planning agencies between February and June 1944 that helped senior logisticians deliver compelling arguments to the command group. Gale attempted to transplant the procedures, relationships, and effective collaboration among scores of officers from Algiers to London in order to replicate the successful results he had eventually achieved in North Africa and Italy while minimizing the growing pains he experienced during Torch. Gale was only partially successful in achieving these goals for many reasons, but, in general, his efforts usually ensured that logistical planning and integrated joint coordination were strengths of the staff at SHAEF. The planners at SHAEF helped Eisenhower make well-informed decisions based on the thorough and realistic assessments developed within their sections. Gale was less successful in establishing a capability to supervise current operations among the administrative staff at SHAEF, largely because he thought this function would be performed by COMZ and the two army groups. When he discovered in September and October that COMZ was incapable of filling the gap between 12th AG/ADSEC and SHAEF, Gale launched a crash program to develop those capabilities within the G-3 and G-4 sections. Ultimately achieved thanks to the expanded role of SHAEF and the seasoning of COMZ, these improved capabilities to manage and forecast logistical operations came too late to support the simultaneous pursuit of five major objectives or to convince Eisenhower to focus on only one or two key tasks in the month of September.

Eisenhower's Narrative For the Fall Campaign

Determining exactly what happened at SHAEF during the summer and fall campaign and what mistakes might have been committed was complicated by Eisenhower's preemptive

publication of his version of events and underlying causes. Under fire from the British chiefs of staff during the week of 12 to 18 December over his conduct of the ground campaign since August, and having learned from his early experiences in North Africa, Eisenhower was determined to seize the initiative.³ In January 1945 Eisenhower prepared a top-secret summary of the recent campaign for his military and civilian superiors designed to make sure his version of events was the first committed to the official record. It was a document designed to convince its readers that Eisenhower had made the correct call on Anvil and the transportation plan, two controversial subjects that had dominated debate over strategy during the spring and summer. The report also included a chapter designed to explain how and why the Allied armies outran their logistical support that fall and to explain that, despite the result, Eisenhower had chosen the proper course for the ground campaign. These themes were subsequently picked up and repeated by the General Board, ETO official histories, and finally the comprehensive history of the U.S. Army in World War Two. It provided the script for Lee's defense of COMZ and conditioned the first wave of postwar professional historians to accept SHAEF's version of events and causes. Eisenhower's report was written to preserve his job and his freedom of action in the spring campaign, not to give an honest and nuanced assessment of SHAEF's failures and missed opportunities. In the long term, the document showed those who had shaped the campaign how to cover their tracks and dodge tough questions about what exactly went wrong.

Eisenhower's version of what happened in the fall of 1944 and the role of logistics in stopping the advance established the precedent that Lee and the General Board would follow over the next year. Constrained by an official narrative that refuted the possibility that SHAEF

³ Edward E. Gordon and David Ramsay, *Divided on D-Day: How Conflicts and Rivalries Jeopardized the Allied Victory at Normandy* (Amherst, NY: Prometheus Books, 2017), 317. Niall Barr, *Eisenhower's Armies: The American-British Alliance During World War II* (New York: Pegasus Books, 2015), 419-422.

might have made major mistakes in controlling the ground campaign, all that remained for the logisticians was to emphasize the scope of the problem and the effort expended trying to overcome it. Eisenhower's report was short on details of what exactly broke down and why between August and October, but it emphasized the unexpected demands of crossing the Seine without a secure base area in Brittany while relying on a transportation network that both the retreating Germans and the French Resistance had wrecked by bombing and sabotage. SHAEF and COMZ had not failed, the report claimed. They had covered themselves in glory by devising innovative solutions to these unanticipated and uncontrollable conditions, and their efforts had kept the armies supplied. Eisenhower explicitly acknowledged the relationship between the supply difficulties experienced in the fall and the extensive destruction inflicted on the French transportation infrastructure, much of it caused by Allied bombers.⁴ Eisenhower pointed to the massive volume of fuel delivered to the advancing armies and the rapid construction of a POL pipeline system that had almost reached Paris by mid-September as examples of the foresight and hard work at ETOUSA. The report claimed that SHAEF had exploited air transport to deliver 2,000 tons of supplies a day during the height of the pursuit and that at no time did ongoing or potential airborne operations divert this effort -- two statements that a large pool of officers at SHAEF and 12th AG knew to be lies.⁵ Eisenhower and Montgomery tried to use massed airborne forces throughout the campaign; these forces were considered a key asset to dislodge any new German defenses anchored on a major river or to close the route of escape for

⁴ "Supreme Commander's Dispatch for Operations in N.W. Europe," Jan 45, 176. RG 498, UD 386 (AG Admin Branch Misc. Classified Records), Box 2526.

⁵ Ibid, 178. It is inconceivable that these two statements were honest mistakes based upon intensity of the debate about the issue in August and September, and the multiplicity of records maintained on the subject throughout SHAEF. Some senior officer at SHAEF was more interested in protecting their reputation than presenting facts. Aerial resupply will be examined in detail in the next chapters.

retreating forces.⁶ It is surprising that the report listed all of the places where airborne forces were almost used while denying that these preparations had any negative effect on aerial resupply.

Eisenhower did not outwardly criticize Montgomery for failing to clear the approaches to Antwerp fast enough, but he did state that he had emphasized Antwerp as a decisive objective early in the pursuit and had repeatedly called for its capture between late August and early October. Eisenhower glossed over the instances where SHAEF had permitted 21st AG to simultaneously pursue three or four major objectives in August and September and shown latitude toward Montgomery in accepting his internal priorities. SHAEF was well informed about 21st AG's plan and timeline for clearing Antwerp and about the inadequacy of those measures, and yet it did nothing to force the issue until early October, which was ignored in the document. The chapter dedicated to logistical challenges wrapped up by noting the recovery of the German defense almost simultaneously with the breakdown of the line of communications in the first two weeks of September.⁷ Eisenhower did not blame only the logisticians for the halt short of the Westwall. New German formations behind prepared defensive lines and major rivers were just good enough to stop the Allies, who arrived in front of these new positions in a trickle of units and with insufficient artillery ammunition to blast through them. Eisenhower strongly implied that, if fuel and ammunition had been more readily available, SHAEF probably would have broken through the German defenses established in early September. Anyone who read Eisenhower's report would have concluded that SHAEF and ETOUSA/COMZ had done

⁶ Ibid, 178-182. The report lists the places where the command considering using 1st Allied Airborne Army: the Paris-Orleans gap after Falaise, to help cross the Seine or Somme, to seize a port and cut the escape route of 15th Army in the Pas De Calais area, and finally in central Belgium and then in Market Garden to cut escape routes and cross the Rhine. Senior leaders at SHAEF and in its ground component clearly understood how the training and rehearsals necessary to prepare for these operations impacted the ability to airlift supplies.

⁷ Ibid, 192.

everything within their means to reach western Germany in the fall of 1944, only to be defeated by the scope and scale of the physical distances involved. The clear implication was that SHAEF had done nothing wrong and that no better options had existed that might have produced more favorable results. Obviously, there was no suggestion that COMZ had failed to fully exploit the capacity of their service units and to coordinate their employment. Eisenhower also avoided dwelling on opportunities that SHAEF had had to simplify or reduce what was asked of the COMZ. For example, they could have scaled back bombing associated with the transportation plan sooner in the campaign, postponed operations against Brest, used every C47 available to deliver supplies, or put everything behind one or two operational objectives rather than try to simultaneously accomplish four. No leader from SHAEF ever remotely addressed why they did not demand a contingency plan for operations beyond the Seine if conditions did not allow a pause to sort out the lines of communication. Eisenhower was trying to win an argument and preserve his job with his January dispatch; combined with the results of the Battle of the Bulge, it did so. The unintended consequence was the creation of a blueprint for how to avoid critical self-reflection at SHAEF, ETOUSA, and COMZ and, in addition, the prioritization of avoiding blame over recognizing and correcting mistakes.

Eisenhower's Many Hats

There is no doubt that Eisenhower and the staff at SHAEF had tough jobs. SHAEF was responsible for the joint-combined theater campaign plan, direction of the ground war beginning in the last week of August, and, increasingly, the integration of U.S. forces in the absence of a strong ETOUSA staff. Once heavily engaged in combat operations, it was discovered, COMZ could barely manage the lines of communication, forcing SHAEF to shoulder the burden of

theater logistical planning and of integrating combat operations and sustainment. To say that under these conditions Eisenhower, his many deputies, and his primary staff officers did not have enough time and mental energy to devote to each major issue is an understatement. This is illustrated by the inclusion of two issues in Eisenhower's January dispatch. The report mentioned the debate over Operation Anvil and pointed out that Eisenhower had insisted upon it because of the numerous advantages a force in southern France offered SHAEF.⁸ Eisenhower also brought up the battle to gain approval for the transportation plan and the commitment of the heavy bomber fleet to help pull the interdiction of western France off.⁹ The report admitted that the aerial support plan led to a moderate number of French civilian casualties, but it implied that these were justified by the contribution that heavy bombers made to the success of Neptune.¹⁰ Eisenhower pointed out the linkage between the effectiveness of the air campaign between April and August and the sustainment difficulties encountered in August and September in the chapter dedicated to logistical difficulties.

Getting both Anvil and the transportation plan approved by the Combined Chiefs of Staff consumed a massive amount of senior leaders' time at SHAEF. LTG Smith collected all of his cables, memos, and meeting notes associated with the discussion over Anvil conducted in February and March; they filled a two-volume book.¹¹ Between 23 January and 31 March there

⁸ Ibid, 32-33.

⁹ Ibid, 45-46.

¹⁰ Ibid, 50. The debate over the transportation plan, SHAEF control of heavy bombers, and French civilian casualties is covered in detail in Pogue *The Supreme Command*, 123-137; Craven and Cate *The Army Air Forces in World War II Volume Three, Europe: Argument to V-E Day*, 67-83 and 138-181; and Bourque's *Beyond the Beach: The Allied War Against France*. The real point is that Eisenhower had to expend a massive amount of time and effort to get control over his own air component, dictate how Spaatz and Harris would assist Overlord, and convince Churchill that the political and civilian cost were justified by military results. It took Eisenhower, the joint-combined theater commander, a long time to convince his superiors that he should have the final say in how SHAEF set up the air component and what airpower would contribute to getting and staying ashore in Normandy.

¹¹ SHAEF CoS collected cables and meeting notes on Bigot "Overlord-Anvil" discussions. RG 331, UD 386 (AG Admin Branch Misc. Classified Records, 1942-1945), Box 2526. The notes fill two legal-sized volumes and are about two inches thick.

was at least one entry in the log daily, and on some days there were as many as half a dozen cables, staff memos, and meeting transcripts on the topic. Not only was the volume of traffic massive, but most meetings demanded the attendance of Eisenhower, Smith, Tedder, and Morgan. It is fair to say that the effort applied to convincing the CCS to authorize Anvil and the transportation plan consumed much of Eisenhower's attention from early February to mid-April 1944.¹² Anvil did not end there. It would continue to demand Eisenhower's attention right up to 15 August.

The real point of mentioning Anvil and the transportation plan here is to illustrate how the exact role and function of a combined-joint headquarters was still in flux as late as the spring of 1944, and trying to integrate joint operations and the interaction of one theater upon another drained the commander and his immediate circle of advisors. Eisenhower had his hands full trying to establish SHAEF, merge ETOUSA and SOS, and plan the integration of three services in Operation Overlord. By retaining his role as the ETOUSA commander and insisting that SHAEF take over the direction of ground operations after the activation of a second army group, Eisenhower put too much on his plate to do everything well. This might have been reasonable if SHAEF had been a mature and experienced organization, or if the U.S. Army in Europe had reached some consensus on the relationship between the various headquarters involved in running a theater, but this was not the case.

¹² The debate about air power at SHAEF consisted of a half-dozen or more sub-components that included the procedural relationship between Tedder and Leigh-Mallory, the approval of the Transportation Plan, and the role of the heavy bombers in supporting all aspects of the ground campaign in France. The most intensive period of conflict over these issues ran from 15 February to 17 April, running from the first public pushback by Spaatz and Harris against the Transportation Plan, and Tedder's publication of an order to begin execution of the plan despite continued resistance by Churchill. Churchill continued to fight the decision through mid-May, but he could not win the support of Roosevelt or the commander of the Free French forces in the U.K., MG Pierre Koenig. See Craven and Cate Volume 3 and Webster and Frankland, Volume III, Part 5.

Saddled with an air component commander whom he did not know and whom others mistrusted, Eisenhower had to spend capital to rearrange the command structure to shift power to his deputy Tedder. Linked to finding an air leader to whom everyone would listen, SHAEF needed an aerial campaign that would harness all the resources at their disposal to improving the chances of establishing a successful lodgment in Normandy. It was a surprisingly difficult proposition that met resistance from Churchill, Harris, and Spaatz, each motivated to resist the transportation plan for their own reasons. Eisenhower's detractors were overcome by deft bureaucratic maneuvering and timely assistance from Tedder, Portal, and Roosevelt.

Eisenhower had to go through this process again between August and December to establish control over ground operations. The overall guidance Eisenhower gave for how he wanted to run the campaign after breaking out of the lodgment remained generally consistent from the SHAEF concept he approved in late May to how he conducted the spring offensive in 1945. By conducting a two-pronged penetration of the western German border both north and south of the Ardennes, Eisenhower would not present an open flank and prevent the Germans from massing reserves to stop any narrow thrusts. He thought this campaign would progress at a slower pace, much as it had in the last few months on the Western Front in World War One rather than in 1940. Under these circumstances it was hard to imagine the Allies outrunning their transportation network. At precisely the moment when this original vision for how the campaign would unfold was becoming irrelevant, the pre-appointed conditions for transfer of control from 21st Army Group to SHAEF also occurred. Montgomery and Brooke thought he adjusted poorly to the new circumstances, and repeatedly they tried to convince Eisenhower and his superiors to surrender control to a subordinate ground commander.

Before the irreparable break, Montgomery tried to convince Eisenhower to see the campaign his way, most notably on 23 August and again on 4, 7, and 10 September. In both cases Montgomery convinced Eisenhower to come around to his view at least in part, but his influence lasted for only a few days before the Americans would drift back to trying to advance on three separate objectives simultaneously. Effective communication between the two men were not made any easier by the physical distance between Granville and 21st AG's forward command post and the limitations of the signal equipment at SHAEF in early September. It also did not help that SHAEF moved from London to Granville during this critical phase of the campaign, motivated to some extent by a barb from Montgomery delivered back in early July. After Eisenhower had visited his headquarters in Normandy and asked about the transition timeline, Montgomery told Brooke that his answer had included the statement that "he... must come over here and devote his whole and undivided attention to the battle. Any idea that he could run the land battle from England, or could do it in his spare time, would be playing with fire."¹³ Since Eisenhower had subsequently decided on 1 September as the transition date, he needed a command post in France before then. The choice of Granville and the timing were unfortunate, but when those decisions were first made in early August, they made sense. Evidently it was too late to hold off, or too difficult to pick a different location, when the movement began during the last week of August.

As the debate over priorities and the proper way to conduct the fall campaign dragged on into mid-September, it became harder and harder to separate egos and the need to "win" from the merits of the various arguments. Montgomery made two impassioned pleas for his "full-blooded thrust" on 4 and 7 September, and he won approval for Market Garden as the Allied main effort

¹³ Montgomery to Brooke, 7 Jul 44, Alanbrooke MSS 6/2/26, LHCMA, in Barr, 397.

on 10 September. But Eisenhower was never going to give back control over ground operations to Montgomery. Eisenhower was under intense pressure from Marshall and Bradley to exert U.S. authority over what was becoming an overwhelmingly American enterprise. On numerous occasions Montgomery had talked Eisenhower into placing U.S. forces under British command and stop the advance of 3rd or 1st Army, only to see Eisenhower backtrack under pressure from Bradley and Patton.¹⁴ Without a doubt, Montgomery sincerely believed that Eisenhower's refusal to prioritize one major thrust during the pursuit directly contributed to the failure to capture the Ruhr and establish a bridgehead across the Rhine in the fall of 1944, but his ego and personality made it hard for him to maintain a constructive dialogue with SHAEF and Bradley. Montgomery was still fighting the command arrangements, the concept of the broad front, and the overwhelming importance of Antwerp as late as 9 October. When they saw a 21st AG order published that day, Smith and Morgan discovered that clearing the approaches to the port was listed as the third priority for 21st Army Group.¹⁵ In a tense series of meetings, in phone calls, and in an exchange of formal letters conducted between 5 and 13 October, Montgomery finally gave in to pressure from Marshall, Brooke, Eisenhower, Ramsay, Morgan, and Smith to stop trying to win the war his way and to give his undivided attention to Antwerp. Up until 13 October Montgomery continued to insist that the Ruhr was the more critical objective and point out that the Americans, not the British, needed Antwerp. Confronted by proof that he was alone in his stand against Antwerp, Montgomery conceded on 16 October, moving it up to the top priority for the army group.

¹⁴ Gordon and Ramsay, 290-291, 293. This occurred twice at the height of the pursuit. The first incident between 23 and 28 August, and the second around 10 to 14 September.

¹⁵ Gordon and Ramsay, 315-316.

Montgomery almost guaranteed that he would lose his argument on the direction of the campaign by continuing to insist that Eisenhower was unqualified to run the ground campaign. In a memo from Montgomery to Smith delivered on 10 October, he correctly pointed out that “Eisenhower’s idea had always been for the whole line to go forward, to capture the Ruhr, and the Saar, and the Frankfurt area....[but] the Americans have outstripped their maintenance and as a result we have lost flexibility on the front as a whole....[thus] we are now unlikely to get the Ruhr or the Saar or Frankfurt.”¹⁶ There were operational advantages to the broad front concept if it could be supported logistically, but Montgomery had realized since 23 August that it was highly unlikely that SHAEF could fully sustain two or three major thrusts, and he had tried to convince Eisenhower on numerous occasions that this was the case. In moments of clarity Eisenhower tended to agree with Montgomery, but each time Lee delivered an optimistic report about how the line of communications was shaping up, or Bradley insisted he could make a real difference with his residual allotment of supplies, Eisenhower lost his resolve. Both men could have “won” if Montgomery had just followed orders and applied massive force against the Germans defending Beveland and Walcheren Island starting in mid-September, perhaps at the expense of Market Garden. This was not a concession about the importance of getting a bridgehead across the Rhine, only a temporary pause. A mid- to late-October Market Garden, supported by strong pushes by 1st and 3rd Army into the Ruhr and Saar, might have been more successful than the September version. Even more promising would have been the recommendation to shift the main effort to 1st Army around 10 September while 21st AG focused on clearing Antwerp.

¹⁶ Montgomery to Smith, 10 Oct 44, Eyes Only, WBS Papers, DDE PL, in Crosswell, 732.

Rather than trying to work with Eisenhower and integrate an understanding of the external factors restricting his freedom of action, Montgomery insisted on keeping the focus on him and his army group. Montgomery ended his 10 October appeal to Smith for a return to the old command arrangements by concluding that the root of “all our troubles can be traced to the fact that there is no one commander in charge of the land battle....SHAEF is not an operational headquarters and never can be.”¹⁷ To make matters worse, Montgomery had shared a similar comment with General Marshall on 8 October. These personal attacks against Eisenhower’s abilities were virtually guaranteed to ensure that Montgomery lost his ability to influence the overall design of the campaign in the late fall, which was unfortunate, because he was the most experienced ground commander within the Allied camp. His insistence upon revisiting the issue of command arrangements triggered frustration, confusion, and vacillation in the Allied high command repeatedly between 23 August and 16 October, directly contributing to the failure to pick a solution and stick with it. It was true that “no one commander [was] in charge of the land battle” only because Montgomery refused to follow orders and prioritize the clearance of the approaches to Antwerp. His continued attempts to change Eisenhower’s mind or ignore orders with which he disagreed undermined his ability to influence the conduct of the campaign after early October.¹⁸ Montgomery had a more realistic view of what the pursuit could and could not accomplish, but he failed to convince Bradley and Eisenhower to see the solution his way, and then he failed to be a loyal subordinate. His stubbornness delayed the opening of Antwerp and repeatedly distracted Eisenhower and SHAEF at crucial stages of the campaign.

¹⁷ Ibid, in Crosswell, 732.

¹⁸ There was a postscript to the debate over control of ground forces in November and December when Brooke took up the issue with Churchill and the British combined chiefs. On 18 December the British agreed to raise the issue at the next CCS meeting, a decision overwhelmed by the Battle of the Bulge. See Barr, 421-422.

Running Logistics at SHAEF

Because Eisenhower was involved in various battles with his subordinates and superiors, the logisticians at SHAEF had to be both independent operators and effective communicators on those rare occasions when they needed the boss's attention. Luckily SHAEF had practiced people running the staff, men familiar with the planning and preparation that had gone into Roundup, and first-hand experience with how Eisenhower had run AFHQ. Smith and Gale accompanied Eisenhower from the Mediterranean, joining Morgan, Crawford, and Lee, and they all set about to merge the procedures and personalities of the three organizations that had come together to form SHAEF/ETOUSA. The strongest personality among the administrative staff at SHAEF was LTG Humfrey Gale, who had worked with Eisenhower and Smith since August 1942. Gale had a sterling reputation and had been a non-negotiable transfer from AFHQ to London. Interviewed soon after the war, Tedder had described Gale as a splendid supply man while in North Africa, adding that his greatest strength had been setting up and running a series of meetings designed to synchronize the logistics community.¹⁹ Gale had also quickly established capable logistics and joint planning teams at SHAEF designed to avoid the early mistakes encountered during the campaign in North Africa. SHAEF had a strong G-4 section, an operations officer who paid attention to administrative issues, and logisticians located throughout the chain of command who were trusted and respected by the maneuver commanders. These strengths were necessary in order to overcome the challenges presented by the tendency to group the administrative staff at a rear headquarters while the maneuver staff clustered closer to the front lines, and Gale's discovery that COMZ did not precisely know how to run the rear area and that SHAEF would have to bridge the gap.

¹⁹ Tedder, interviewed by Pogue, 13 Feb 47. Background material for *The Supreme Command*, AHEC.

Once he had settled in at SHAEF, Gale recreated the weekly administrative coordination meetings he had held since becoming the AFHQ chief administrative officer (CAO) back in August 1942. The scope of these meetings had grown in tandem with the authority wielded by SHAEF and with the complexity of the activities associated with Overlord. Gale held his first meeting at SHAEF on 18 March 1944; Lee represented ETOUSA and there were senior representatives from the various air commands, the navy component, 21st Army Group, and the British War Office. Before the invasion the group had often struggled to justify the time spent at the meeting, but occasionally a significant issue came up. At the first meeting on 18 March MG Napier, the SHAEF G-4 transportation officer, noted that he did not have a U.S. counterpart. As a result, he was forced to coordinate with three separate U.S. organizations, FUSAG, COMZ, and First U.S. Army (FUSA), in order to synchronize with the Americans. Napier asked if ETOUSA could appoint a deputy chief of transportation for the theater and assign him to the 21st AG staff to handle some of this workload.²⁰ Evidently General Ross was frequently unavailable, and when he was present, he could not speak authoritatively about the overall U.S. position. At the meeting the following week, MG Brownjohn, Crawford's British deputy in the G-4, pointed out that the delivery of POL pipeline construction material had fallen significantly behind schedule, and this report came as a surprise to Lee. Once he had time to follow up on the issue, Lee told the group on 1 April that the problem would be solved before the landings; 1,000 miles' worth of material for both 4- and 6-inch pipeline would arrive before June.²¹

Frequently key leaders were pulled away from the weekly coordination meeting for major rehearsals and briefings. When Lee was not available, ETOUSA was represented by MG Lord.

²⁰ SHAEF CAO Coordination Meeting Notes, 18 Mar 44. RG 331, Entry 34, Box 24. The minutes do not record Lee's response to the complaint and recommendation.

²¹ Ibid, 1 Apr 44.

The tone of Gale's weekly meeting, at least before August, was very different from the meetings held at AFHQ between August 1942 and February 1943. It was more reminiscent of the meetings conducted after 18th Army Group took over ground operations in Tunisia. SHAEF's control of logistics was much more indirect and remote; details associated with supplying material and integrating the various service troops were being handled by the service commands, the War Office, and ETOUSA. This left SHAEF with reduced scope of responsibility: Gale approved combined theater SOPs and adjudicated those cases where two or more subordinate units disagreed with a policy or wanted more of something that was in short supply in the theater. As a result, no contentious issues were recorded in the meeting notes from March to August, and the first operationally significant concerns did not enter the record until early July. Interviewed after the war, Gale explained the difference: "In North Africa we actually achieved integration; SHAEF was a bigger affair; the organization was more loosely knit."²² He had a good feel for what he could handle on his own, and for those issues that he needed to take to Smith. Gale got along well with Lee, but he admitted that he found Crawford a bit prickly. COSSAC and ETOUSA had allowed the routine U.S. – U.K. coordination meetings to lapse, but Gale reestablished weekly meetings to discuss shipping, transportation to the continent and then ashore, and to confirm that ETOUSA and the War Office were aware of SHAEF's needs and meeting them. Gale added that he felt as if he had spent 60% of his time at SHAEF working on transportation crises, 20% on the oil requirements of the theater, and 20% on everything else.²³

After almost four months discussing relatively minor administrative issues, Gale brought up the topic of Operation Chastity, the project to turn Quiberon Bay into a major port, at the 1

²² Gale, interview by Pogue, 27 Jan 47, transcript, 2. Pogue notes for *The Supreme Command*, AHEC, Carlisle, PN.

²³ *Ibid*, 3.

July meeting. The ability to discuss major logistical challenges, the implications associated with changes or delays in the campaign, and how to mitigate bad news was exactly why Gale had established such a high-powered meeting in the first place. Chastity came up on 1 July because of 21st Army Group's slow progress through the bocage, which threatened to put Chastity hopelessly behind schedule. The Allies needed a second major port in operation by early October, and Quiberon Bay would require significant work before it was ready to efficiently process cargo ships. There were also early rumbles from the Navy that Brest needed to be secured before work could start on Chastity. On 1 July Gale asked the representative from 21st AG for a revised projection of when they would break out of the Cotentin and move into Brittany. The 21st AG promised to examine the issue and come back with an answer in two days. The resulting discussion at SHAEF on 3 July was inconclusive; the Brittany ports were still important to the overall scheme of support, Channel ports would not be able soon enough and would never be able to handle enough tonnage, but SHAEF was running out of time to reach and develop Quiberon Bay based on the original timeline. The group agreed they had until mid-July before the problem became a crisis. Meanwhile, SHAEF would look for alternatives to the discharge problem while pushing 21st AG to develop options to accelerate the capture of a port in Brittany. One positive outcome from these conversations was the increased dialogue it triggered between the maneuver and logistics planners at SHAEF and its subordinate commands. It forced senior officers to acknowledge the interdependence between objectives linked to logistical capabilities and the maneuver options that these objectives made possible. If SHAEF wanted the campaign to remain on track, 21st AG would have to come up with new ideas to get Chastity back on track or find a replacement.

What is really important is that the conversations on 1 and 3 July demonstrated that SHAEF had a system for identifying major logistical problems and bringing together the entire team to develop solutions. Gale's meeting gave administrative staff officers from three layers of the chain of command a forum in which to share their insights on potential problems and possible solutions. It ensured that Crawford and Gale were aware of these issues, enabling them to force the G-3 and service commanders to integrate them into their plans. Because Gale had ready access to Smith, Morgan, Tedder, and Eisenhower, he could ensure that any significant administrative concerns emerging from this process were injected into command channels if needed. It did not mean that he could win every argument or that the logistical tail wagged the dog, but it did mean that Gale was likely to know about major problems in time to explain them to his superiors and develop solutions to overcome them. This process was to assume an increased importance in August and September.

MG Harold Bull, the SHAEF G-3, appreciated the importance of personnel and sustainment systems and how they impacted his role at SHAEF. Soon after arriving in London he took steps to insure he remained well informed about administrative developments and any restraints they would impose on the campaign in France.²⁴ He received a daily strength report from the U.S. G-1 from January to May 1944 that outlined what troops would be available for Overlord, broken down by those already in the U.K., those arriving in the next 30 days, and monthly projections after the landing in France, broken down by major commands.²⁵ Bull's personal papers also included two draft copies of the FECZ COMZ plan, dated 25 April and 3

²⁴ Bull was the War Department G-3 for two months in 1942, an observed in the Middle East and North Africa from April to June 1943, and he commanded III Corps in the U.S. for five months. In October 1943 he was assigned to the operations branch at COSSAC and took over as the SHAEF G-3 on 14 February 1944. Bull remained in that position until V-E Day, other than a nine-day stint as the commander of 4th Infantry Division in November 1944.

²⁵ SHAEF G-1 Daily Strength Reports, RG 331, Entry 23, Box 14.

May.²⁶ It is impossible to tell if Bull read them, but he did keep them on hand for reference and had been given the chance to provide input before publication of the final version on 14 May. He was obviously aware of the projected phase lines out to D+360 and the widely held assumption that SHAEF would halt along the Seine long enough to fix the rail lines and establish forward depots around Rennes before trying to cross the river. Bull remained well-informed and intensely curious about personnel developments throughout the war in Europe. Starting in September 1944 Bull demanded refinements to an ETOUSA G-3 periodic report they had initiated in August. Bull wanted the initial arrival date, location (Normandy, Marseilles, UK, or released from detached duty with the COMZ), and projected availability date of new combat and combat support formations assigned to the theater.²⁷ The G-3 understood the process and general timeline required to integrate new units but wanted a twice-monthly progress report from ETOUSA to ensure things were on track. The report also forced SHAEF and ETOUSA to maintain a running dialogue about which combat units were most important at that stage in the campaign and about the relative importance of supplying units already in the fight or using that transportation to move up new formations.

It was not all about personnel; Bull understood the importance of supplies and worried about getting detailed information from the G-4 community as well. In April 1944, Bull complained to Brigadier McLean, the chief of his planning section, that their work failed to adequately address logistics.²⁸ That spring Bull also felt that the logisticians were not looking far enough into the future, having failed to project the need for massive quantities of bridging

²⁶ RG 331, Entry 23, Box 48.

²⁷ Memo for ETOUSA G-3 from SHAEF G-3. RG 331, Entry 23, Box 50. The memo explained the format and frequency of this new report, and it forced ETOUSA to project how long it would take to get new units equipped and then transported to the front line.

²⁸ Note, Bull to chief of plans section, SHAEF/21522/Ops, 10 Apr 44. MG Harold Bull papers, Box 1, DDE PL.

equipment needed to move through the Low Countries and heavy artillery with plenty of ammunition needed to crack through the Westwall. The G-3 knew sustainment was critical and valued the input of the G-4, but there were limits to the independence he would concede to the logisticians. On 17 May Bull responded to a recent request from Crawford that the G-4 be added as a full voting member to the reviewing chain for draft documents produced by the joint plans section.²⁹ Bull refused; his argument was that Gale held that power for the administrative staff, representing the interests of both the G-1 and G-4. Bull suggested that, if Crawford had a problem with a decision coming from the G-3 or JPS, he should bring it up in person with Bull on a case-by-case basis. Obviously, something had convinced Crawford that the G-4 had been undercut by the current planning process, or that it was just seeking more autonomy from Gale, but Bull disagreed with making any fundamental changes to the staffing process.

One of the most important and difficult tasks at SHAEF was trying to ensure that everyone within the extended command had the information needed to make informed decisions. SHAEF G-3 was responsible for publishing a daily two-page sitrep designed to keep all elements of the command informed of the developments going on around them. It was a consolidated, joint and combined document; each staff section and service component contributed to the final summary. The report included a weather forecast, the general front-line location of enemy and friendly troop concentrations, a summary of significant activities conducted by each corps (and divisions when considered relevant) from the last day or so, and an overview of upcoming major operations.³⁰ The summary included not only traditional ground operations but also activities of

²⁹ Note from Bull to Crawford, 17 May 44. Response to SHAEF/1001/9/GDP from Crawford to Bull, 10 May 44. Bull Papers, DDE PL. The G-4 received copies of draft documents and was encouraged to provide input but did not have the bureaucratically important power of a “concur/non-concur” vote. The ability to “non-concur” was equivalent to a veto. When confronted by a non-concur, the creator of the draft document either had to work out a compromise acceptable to the office voting no, or the issue had to be elevated to a higher authority for adjudication.

³⁰ SHAEF Daily Situation Report. RG 498, UD 342 (ETOUSA G-3), Box 1485.

the French resistance, the British SAS working behind enemy lines, and Allied air and navy forces. The administrative portion of the report provided Allied casualty figures for the last 24 hours and the discharge figures for the ports and beaches of Normandy. This included the number of men and vehicles, tons of equipment unloaded over the last 24 hours, plus a cumulative roll-up of the figures to date. The format of the administrative section did not change from June to September. No mention was made of the location of major COMZ units or headquarters, COMZ's current focus and priorities, the progress of critical projects, or the most significant logistical challenges facing SHAEF. The purpose of the daily SHAEF sitrep was to increase situational awareness, help all units maintain an up-to-date war map, and see the unfolding campaign in the same light. The fact that Gale, Lee, and Crawford never changed the format and content of information they chose to emphasize across every element within SHAEF speaks to a lack of imagination and appreciation for how the report could have helped them convey their message. By keeping the format of their portion of the sitrep static for four months, SHAEF and ETOUSA logisticians ensured that their portion of the report was irrelevant to the corps and army commanders and staff, missing out on an opportunity to help combat leaders anticipate looming logistical challenges and shortfalls.³¹

Another step designed to ensure that SHAEF had accurate, up-to-date information with which to make decisions was to establish liaison sections within various subordinate commands. Bull ran a war room at SHAEF that received information on the ground situation directly from liaison officers he stationed with 21st and 12th Army Group, 1st Allied Airborne Army, AEF, USSTAF, and the Allied Naval Command. The chief for this subsection within the G-3 was

³¹ In their defense, it is probably one of the most difficult mental transitions possible to turn a requirement to provide routine information to another staff section or the commander into a tool designed to make your function more effective. Gale and his team, confronted with so many other important tasks, did not see how they could use the daily sitrep to better communicate with their critical partners.

COL Negrotto, who reported directly to Bull and his British deputy MG Whitely while providing a courtesy copy of all reports to the ETOUSA/COMZ G-3. Each of SHAEF's subordinate commands likewise provided its own liaison sections to various staff sections SHAEF, and the process was replicated at the army group and COMZ level. The purpose of all these officers was to ensure a timely flow of accurate information and to hunt down the answer to specific questions when other methods failed. The usefulness of the SHAEF liaison cell was demonstrated by a report submitted from the 21st AG team on 14 September. The document confirmed that Montgomery's staff was consumed getting ready for Market Garden, due to begin on 17 September, preventing any work on operations designed to clear the approaches to Antwerp or open up alternative ports.³² The report went on to confirm that the attack on Boulogne was scheduled to begin on 15 September, and the author knew that a SHAEF G-4 rep had been to Le Havre to conduct an assessment of the discharge capacity of the port. From this report it was obvious that SHAEF had been asking specific questions about 21st Army Group's efforts to open new ports and that Montgomery was ignoring Antwerp in order to focus on Market Garden and Boulogne. Despite Eisenhower's talk of the importance of Antwerp, Bull could confirm that 21st AG was largely ignoring the objective in mid-September. SHAEF was getting accurate information about the priorities and activities of its subordinate organizations. Whether that information reached senior officers or impacted decision-making at the highest levels is harder to determine.

³² Negrotto for SHAEF G-3, 14 Sep 44. RG 498, UD 340 (ETOUSA G-3 War Room and Liaison Section), Box 1483. Although created by SHAEF for its own leaders, this copy of the report was found in the ETOUSA records, confirming that the command was well informed about problems with getting the port of Antwerp opened for Allied traffic.

Poor Communication Between the Two Halves of the Staff

Significant changes to the Allied ground campaign unfolded quickly from early August to mid-September. It was critically important to maintain good communication, not only up and down the chain of command, but also horizontally between maneuver and administrative staff sections. This was more difficult than might first be imagined by both the mental and physical distance between the two groups at most headquarters. It is important to remember that the two groups of staff officers often occupied different physical locations, sometimes separated by hundreds of miles and connected by less than adequate communication links. Most major commands maintained a main and a rear command post, and often established a third, forward, node closer to the front lines. To provide one example, on 9 October SHAEF rear was still at Bushey Park near London, the main headquarters was at Versailles, and the advanced command post was near Reims to make it easier to talk with the central and northern army groups.³³ In early November 1944, the G-4s at 12th AG and 1st Army were not collocated with their G-3s; conversely, 3rd and 9th armies decided to run one consolidated command post.³⁴ Each command had slightly different arrangements; 21st AG kept the medical, ordnance (REME), provost marshal, and quartermaster (RAOC and RASC) sections at the rear command post, with the chief admin officer (G-4), chemical warfare, engineer, signal, and transportation (Q movements) sections at the main. SHAEF had its own adjutant general, air defense, engineer, signal, medical, public relations, psychological warfare special staff sections at the main headquarters, but the ETOUSA/COMZ element located with them were not listed in the phone book.³⁵ Another very similar set of special staff sections was located with COMZ in Paris, but that headquarters also

³³ SHAEF Daily Sitrep, 9 Oct 44. RG 498, UD 342, Box 1483.

³⁴ ETO Continental Telephone Directory, 2 Nov 44, 15. RG 407, Entry 427, Box 190.

³⁵ Ibid, 5.

included a number of unique technical services charged with executing logistical support. Just figuring out where everyone was located and how to reach them by telephone presented a major challenge for an officer trying to coordinate with new partners. Everyone exchanged liaison teams, but maintaining effective communication was complicated by the separation of functions across two or three headquarters, often precluding face-to-face communications that involved a wide range of staff sections. Signal officers did the best they could, but there was only so much that radio, telephone, and telex could do to replicate the richness of inclusive and interactive dialogue.

The size of the staff in these organizations contributed to the need to split them up into three or four subgroups to spread the burden associated with sustaining them. It was also important to have at least two fully functional command posts in order to leapfrog command and control behind the advancing divisions. But these dispersed operations also helped create barriers to effective communication across staff boundaries. SHAEF was a massive headquarters, with some 1,200 officers and almost 5,000 men were assigned to the command in July 1944; by February 1945 the number had jumped to 16,312.³⁶ During Overlord, the SHAEF staff occupied three large and widely separated footprints, not to mention the various liaison groups scattered throughout subordinate organizations. The G-4 section alone contained 439 soldiers at the height of Overlord.

It is hardly surprising that not everyone knew each other on the SHAEF staff or that officers from different functional areas found it difficult to communicate with one another, which quickly led to distrust in their professional capabilities. BG Thomas J. Betts was the U.S. deputy in the SHAEF G-2, having transferred from AFHQ in the spring of 1944. In an interview

³⁶ Pogue, 533, 534.

conducted in 1975, Betts was asked how the SHAEF staff functioned and what the relationships were among various sections. When questioned specifically about the G-4, Betts admitted he could not remember the director's name. But he did remember that he had not been impressed with the officer, who seemed to be overshadowed by LTG Humfrey Gale and his British deputies, a "Blackbill or something" (Ravenhill) and MG Charles Napier.³⁷ Admittedly, Crawford and Betts came from different communities within the U.S. Army, and Betts was being asked very specific questions about events from thirty years in the past, but it does seem odd that the deputy G-2 could not remember the name of the G-4, a man with whom he served in combat for over a year. Napier had made a favorable impression on him with his work on the French rail service in the fall of 1944. Betts suggested that Lowell W. Rooks would have been a better choice as the SHAEF G-4 but was not available because he had been reassigned as the G-3 for the Mediterranean theater (NATOUSA).³⁸ Betts's answers hinted at just how hard it was to keep up with everything going on around you in an organization as large and complex as SHAEF.

If BG Betts did not think much of the senior officers at SHAEF G-4, Eisenhower had a more nuanced appreciation of the talent working logistics for him. From his official correspondence and various recommendations for promotion, it is clear that Eisenhower understood that his logisticians had a wide range of competence. Directed in February 1945 to provide a rank-ordered list of his senior subordinates from 1 to 38, Eisenhower listed Lee at 19

³⁷ MG Thomas J. Betts, interviewed by Dr. Maclyn P. Burg, June 25, 1975, interview 2, transcript, OH-397, DDE PL, Abilene, KS, 128. It seems that perhaps SHAEF had too many people working logistics to keep them all straight. In addition to LTG Morgan, LTG Gale, MG Crawford, and the various British and American senior officers within SHAEF G-4 and the senior officers at COMZ; Eisenhower appointed MG Everett Hughes his personal logistical troubleshooter. Furthermore, MGs Clay, Aurand, and Lutes would show up in Britain and France from time to time to conduct inspections on behalf of General Somervell. There were many general officers to try to keep up with.

³⁸November 20, 1974 (this is a mistake, the interview occurred in 1975 and the transcript is mislabeled), interview 3, 133. Betts interview 3, 133.

(the only lieutenant general not in the top five), Crawford at 27, and Larkin at 28.³⁹ Bull and Rooks were a few positions higher than Crawford and Larkin on the list, which tended to weigh army and corps commanders over staff officers anyway. Despite Crawford's being listed at 27 on this list, Eisenhower described his performance of his duties as "exceptional." The supreme commander also thought highly of BG Plank and BG Moses and continued to push for their promotion to major general throughout 1944 and 1945.⁴⁰ Plank, Moses, and Larkin all had excellent reputations among their peers from both the sustainment and combat arms communities during and after the war, which was not the case with Lee, Lord, and Stratton. Crawford seemed to occupy a mid-tier position. As in any other large professional organization, the quality and interpersonal skills of logisticians in SHAEF covered a wide spectrum, but generally there were enough officers with a solid reputation among the fighting generals to get a fair day in court when they brought up concerns or made recommendations.

Rebuilding a Joint and Logistics Planning Capability at SHAEF

In order to generate integrated staff products, SHAEF needed organizations and procedures that forced all the various communities within the staff to interact in an effective way. Maintaining organizations or committees that met frequently and subsequently produced high-quality work was the best way to ensure that leaders got a well-rounded appreciation of challenges and opportunities. Upon his return to London, Gale discovered not only that SHAEF's precursor did not have a joint or logistics plans section but also that the various

³⁹ Chandler, message 2271, 1 Feb 45, Eisenhower to Marshall.

⁴⁰ Chandler, message 2247, 26 Apr 1945, Eisenhower to Marshall. Eisenhower ranked Plank second and Moses third on this list of five BGs deserving promotion. Eisenhower had mentioned Plank as his number two candidate the month prior as well (see message 2349). Eisenhower had pushed for Plank's promotion from COL to BG in January 1944; this recommendation was approved, and Plank was promoted on 24 February (see 1512).

headquarters in London had stopped holding the coordination meetings he had put in place prior to deploying to North Africa with AFHQ. Two of Gale's first initiatives in early February were to reconstitute the logistics plans section he had added to the AFHQ staff in February 1943 and to expand G-3 plans into a full joint plans section. Smith reluctantly approved the creation of a joint plans section on 4 March after about three weeks of deliberation over the composition and control of the group.⁴¹

Gale had initially asked to create a group focused on long-term logistics planning, but the conversation that emerged as a result of his initial request eventually produced an expanded capability that included permanent and associated representatives from the general and special staff and key subordinate headquarters. This new joint planning office, at first called the Combined Planning Section, was formed around a core consisting of the G-3 planners and the G-4 logistics plans section. Although the G-3 and G-4 plans sections were technically separate entities, their products were often lumped together and attributed to the Joint Plans Section (JPS) or G-3 plans section. Until May 1944 BG Arthur Nevins was in charge of the G-3 plans and operations section, but in May the two functions were divided and Brigadier Kenneth G. McLean took over as head of plans.⁴² Both men were very capable and had the background needed to establish an effective theater planning cell; Nevins had helped plan Torch while serving on the AFHQ staff and McLean had been the chief Army planner at COSSAC since spring 1943. COL Whipple, the chief of the SHAEF logistics plans section, moved over from ETOUSA G-4 in late February.

⁴¹ SHAEF staff memos, 12, 21, 28 Feb 44. RG 331, Entry 26 (SHAEF G-3 Future Plans and Joint Planning Section), Box 80.

⁴² Pogue, 68.

The JPS demonstrated the power of its inclusive structure when it published the first coordinating draft “Post-Neptune Planning Forecast No. 1” on 19 April 1944.⁴³ The document was essential because it validated a standard set of planning assumptions about Allied strength and location on the continent from D to D+360 in 30-day increments, allowing COMZ and the services to link their logistics planning to the common framework established by this outline of the campaign. The final version of the forecast indicated that the Allied armies would reach a line running through Verdun, the western Ardennes, Liège, and Antwerp by D+270. After a short pause, the Allies would launch thrusts north and south of the Ardennes to seize the Ruhr, cripple German industrial production, and trigger political collapse. These benchmarks were significant because they corresponded to where the Allied pursuit crested in early- to mid-September 1944, almost six months sooner than SHAEF predicted, but also because they outlined Eisenhower’s concept for penetrating the German western border. It took so long to turn the first draft into the approved forecast because of all the factors accounted for in the document and because the feedback provided from across the Allied chain of command was so extensive. No one could claim to be surprised by the projected operational pauses along the Seine and the Westwall or by Eisenhower’s preference for two simultaneous thrusts to reach the Rhine.

Planning Forecast No. 1 filled a useful purpose before D-Day, but between late May and mid-October SHAEF did not update the document. Components of the original forecast were revised and published, but not the consolidated, integrated appraisal of the overall campaign. About two dozen special studies were published by the joint plans section and the logistics plans section during the summer, but these failed to reconcile the progress of the maneuver and

⁴³ The final, approved planning forecast was published on 27 May after a month of refinement.

logistics battles, matched with revised projections, to create a common vision of how the campaign would progress over the coming months. Looking back in mid-October, Whipple realized that this was a mistake and that he had contributed to the failure to anticipate and mitigate the logistical problems that stopped SHAEF short of its operational objectives that fall. To fill that gap, SHAEF G-4 decided to publish a comprehensive logistics forecast twice a month beginning in October, based upon operational projections provided by the G-3. Starting in October, Whipple asked the SHAEF G-3 operations division for a rough estimate of unit strengths, front-line location, and general type of activity (the choices included: advance, heavy fighting, moving through rough terrain to include water obstacles, defense) by the 5th and 20th of each month.⁴⁴

Armed with what types of operations corps and armies planned to do and a forecast of what the transportation network could move over the coming two weeks, Whipple tried to paint a picture of what the command could and could not sustain or what would cause logistical headaches and where they would develop. The resulting product consisted primarily of a simplified depiction of transportation networks with tonnage capabilities of each linked to the number of divisions this distribution system could support at the front line. It seems as if SHAEF found this process useful for about six weeks, until the new bureaucratic routine was interrupted by the German counteroffensive in the Ardennes. Whipple's initiative was useful at a critical time during the campaign because it combined three separate projections into one overall forecast that depicted where the Allies could accomplish their goals and where breakdowns were likely to occur. It integrated Ross's transportation projection, ETOUSA's

⁴⁴ There is a series of memos and cables between SHAEF G-4, SHAEF G-3, and the liaison section throughout late September and October that established this system. See RG 331, Entry 26, Box 75. Whipple put LTC Osmanski in charge of the process necessary to gather information and the creation of the twice monthly logistics estimate.

timeline for the arrival and availability of major new combat units, and anticipated operations from division to army level (and therefore the consumption rate of supplies by type) for the next two to three weeks. Based upon these critical inputs, SHAEF G-4 could predict the total tonnage requirements by class of supply and then determine if the theater inventory and distribution capacity could provide enough material to maintain desired consumption rates. If yes, then SHAEF could work with COMZ to decide how to use the excess transportation capacity. If there was a shortfall, SHAEF would be forewarned and could try to work out a solution. It was a powerful document provided by SHAEF G-4 at a time when 12th Army had lost all faith in COMZ's ability to manage theater logistics. Whipple's forecast did nothing to change exactly how ETOUSA was managing the theater logistical system, but it did reassure SHAEF and the army groups that the logisticians had a grip on the problem and a methodology to help leaders make tough decisions.

Reports and Meetings

In addition to a network of liaison officers and permanent organizations made up of all the disparate experts on the SHAEF staff, the command could use recurring reports and meetings to try to extract a wide range of information and then fuse it into a comprehensive whole. A bit surprisingly, by the start of the campaign in Normandy, SHAEF still had not figured out how they wanted to collect and process reports on logistics. Before October 1944 the SHAEF files contained no comprehensive reports that outlined the overall logistical situation - because the command had not established any requirements for their submission. Prior to early October, SHAEF accepted the frequency and content of the reports voluntarily submitted by COMZ, the air and navy components, and the army groups. The crisis in logistics in September and October

occurred during a period of frequent relocation of the key headquarters, delaying the emergence of an effective reporting system at SHAEF and ETOUSA. As with so many other challenges faced by SHAEF and ETOUSA, there was no doctrinal template or body of historical experience to guide and accelerate the emergence of useful reporting formats. Officers with practical experience from AFHQ had an advantage in describing the right level of detail they wanted to see, but in general almost no one knew how to strike a balance between gathering minutiae and exercising benevolent neglect.

What was the right level of detail to gather from the armies and army groups, and how often should this information be collected? No one knew; ETOUSA had no experience supporting combat units in the field, and AFHQ had worked through air, land, and sea intermediary commands. What had worked in the Mediterranean would need to be modified for the new conditions in France. For the duration of the campaign in Europe SHAEF allowed the army groups to work out their own systems and formats for submitting periodic logistical reports. This resulted in very different information being provided by 21st, 12th, and eventually 6th Army Group, with each organization taking a slightly different approach in the effort to turn raw data into meaningful statistics. The first routine report to reach SHAEF G-4 had been the buildup report provided by FECZ, which was passed along with no refinement or additions, for inclusion in the SHAEF daily sitrep. FECZ had done the same, consolidating six individual reports from the beach and port commands before passing them along to ETOUSA and SHAEF.⁴⁵ Pressure on the SHAEF G-4 to do better than this intensified when LTG Morgan asked at the 31 July chief of staff meeting for an assessment of the logistical situation on the

⁴⁵ RG 331, Entry 34 (SHAEF G-4 Executive Section Decimal File), Box 10.

continent.⁴⁶ Up until this point Crawford had received nothing but a daily list of the discharge figures from FECZ and notification of occasional emergency supply requests from Bradley and the team at FUSAG. Another tool that might have helped Crawford figure out how things were going on the continent, his weekly G-4 coordination meeting, had been cancelled at the end of May when half of the attendees displaced to forward headquarters. Despite the request from Morgan and an internal understanding that SHAEF G-4 needed to be tracking logistics and transportation information from the units in France, Gale and Crawford never got around to setting up a system for collecting reports and conducting periodic meetings with the army groups beyond the CAO weekly huddle.

The absence of such a system was a minor irritant until mid-September when it became apparent that insufficient transportation had slowed if not stopped the pursuit. This (hopefully) temporary pause convinced ETOUSA and SHAEF they needed to become ruthlessly efficient in matching fundamental logistical requirements against the limited transportation that was available, and in order to do this they needed accurate information. The meant SHAEF had to find out what was really going on beyond the confines of the various command posts – to see the problems being masked by the current reporting procedures. These problems were not unique to the logistics community. They existed across all the general and special staff sections at SHAEF. SHAEF G-4 published its first weekly “Basic Statistic Report” on 7 October, and on 8 October the G-3 began holding a daily operations conference; COL Whipple was the G-4 representative at the meeting.⁴⁷ Bull had zeroed in on logistics as the critical issue preventing a return to mobile operations, and he pinned his hopes on clearing the approaches to Antwerp as

⁴⁶ Minutes, 31 Jul 44 SHAEF CoS Meeting. RG 331, Entry 34, Box 25.

⁴⁷ RG 331, Entry 34, Box 12 and 26.

quickly as possible. But the maneuver work group chaired by the G-3 was under no illusions; they realized that as late as 9 October Montgomery was not putting his full effort into opening Antwerp; and even after the Germans were gone, the Navy would need another month to sweep the channel.⁴⁸ At the 20 October G-3 meeting 21st AG and COMZ briefed that Antwerp would be able to receive ships by 15 November; Whipple pointed out that late November was more realistic. Since Whipple's estimate proved to be correct, Bull was forced to admit that there was no operational solution to the Allied logistics problem and that the hope of restoring mobility along the front anytime soon was unrealistic. On 3 December Bull decided that his daily coordination meeting had accomplished its purpose and would be discontinued immediately. By then SHAEF had largely fixed its sustainment problem, but it was too late to accomplish any of the objectives left over from the fall campaign.

When the logistics crisis hit in mid-September, Crawford thought that, if SHAEF was going to contribute to solving the problem, it needed to gather and share a lot more raw data across the command. If COMZ was not managing theater logistics at the level of detail required, Crawford would do it for them. The result was the weekly "Basic Statistical Report." By mid-November this report consisted of 30 pages of inventories by class and service of supply, consumption rates for the last available period, the current status of the transportation network, and the strength and disposition of service units assigned to the command. To help collect all this data, Crawford sent a liaison section to 12th AG in mid-October tasked to provide updates whenever they came across something useful. Crawford was especially interested in getting confirmation of how far along the line rail service had been restored, the volume of material delivered by train and plane, and the results of personal inspections of large service unit

⁴⁸ Whipple's notes for the meetings on 9 and 20 October. RG 331, Entry 34, Box 26.

headquarters, regulating stations, and depots.⁴⁹ This work was designed to flesh out and provide context for the two-page weekly logistics report provided by 12th AG G-4. Moses' short report summarized the overall sustainment situation at each of three armies, broken down by classes of supply, and then provided a detailed inventory of ammunition on hand within each command.⁵⁰ Devers' 6th Army Group went in an entirely different direction, providing a lengthy weekly report running to dozens of pages and providing the sort of detail included in the "Basic Statistic Report" published by SHAEF. Crawford and Lee did not insist upon a standard format, relying on liaison teams and COMZ tracking systems to fill in the required details starting in October.

The logistics report submitted by 21st AG offered a third approach that occupied a middle ground between 12th and 6th Army Group. Reports were provided every three to four days and included two sets of information. The first cluster was always the same; the subject of the second cluster rotated every four to five cycles so that a complete new set of data was provided every two weeks. Army group feeding strength, broken down by nationality and unit type (division, corps overhead, line of communication, POWs, and civilian labor) was included with every report.⁵¹ Rotating data included the number of tanks in each brigade and division, the days of supplies on hand by each major type, detailed fuel and ammunition inventories, and an update on the status of new French units receiving British equipment and training. In general, 21st AG had fully recovered from its supply difficulties by late October. The only shortage considered

⁴⁹ RG 331, Entry 34, Box 10. It was obvious that Crawford was seeking a trusted and independent source of information beyond 12th AG and COMZ. COMZ already had an LNO with 12th AG, COL Bendetsen. Crawford wanted his officers to get out and see these activities themselves, to uncover problems that were not reaching his level, and to expose success stories if found.

⁵⁰ RG 331, Entry 34, Box 12. The report was broken down into an overall status report by the three armies (days of supply by class) and any shortages of operational importance. The second page listed ammunition on hand in each of the three armies by type and by units of fire, and it provided the number of rounds authorized to be fired by gun by type daily.

⁵¹ 21st AG Log Report 31 Oct 44. RG 331, Entry 34, Box 10. The three categories were almost exactly equal: 221,921, 220, 024, and 228,296.

worth mentioning was gasoline (MT 80) in Canadian 1st Army, which had ten days of supply distributed between division, corps, and army depots.⁵² The report submitted on 30 October also identified new planning estimates of the daily maintenance tonnage requirements for the troops in support of each division; there is no indication if this was in response to a query by SHAEF or provided as part of a British initiative to revise consumption factors.⁵³ It was obvious that the British Army had a well-developed administrative reporting system already in place independent of the need to provide one to SHAEF. For whatever reason, the last report from 21st AG on file at SHAEF was from 15 December 1944.

It seems that the combination of the end of the Allied logistical crisis and the start of the Battle of the Bulge eliminated the requirement for most of the meetings and reports initiated by SHAEF in October. In February 1945 COMZ picked up the burden of collecting and publishing theater sustainment reports, but it was obviously a product designed to serve the COMZ and not the armies or operational planners at SHAEF. This final version of the theater logistical report was submitted by subordinates daily and rolled up for distribution across the command weekly. The document attempted to track deliveries to each army by class and service of supply, the means of transportation (air, rail, truck, ship), and the status of the various dumps in the combat zone (tonnage on hand in each by class for each service of supply, and the quantity issued, received, and ordered in the last reporting period). It must have been a very painful report to produce and keep accurate while providing very little payoff beyond COMZ/ETOUSA; it seemed to be designed to address the deficiencies noted by Lutes and Somervell during their winter inspection tour.

⁵² 21st AG Log Report 3, 30 Oct. RG 331, Entry 34, 10.

⁵³ 210 tons for full scale offensive operations, 70 in the pursuit, and 120 for defense/holding operations. The report does not mention what the division baseline tonnage was.

By the time the Overlord campaign began, SHAEF had a few well-developed systems in place to identify and tackle problems originating from below or generated by other sections of the general staff. Gale, Crawford, and Bull built a system with various methods of forcing crosstalk among the logisticians and among the maneuver and sustainment communities. Gale reintroduced a weekly CAO meeting in March 1944 and used it to synchronize logistical support for SHAEF. Attendees from the War Office and ETOUSA provided him a direct link back to the industrial bases for both countries, and senior representatives from the three services were present to bring up any emerging concerns or requests. Senior leaders at SHAEF received well-integrated, comprehensive assessments of anticipated challenges from the logistics plans section and the joint plans section. These documents and briefings helped the administrative staff at SHAEF understand all aspects of difficult logistical problems and the interplay between the maneuver and sustainment viewpoints. A strength of the SHAEF system by May was its ability to anticipate challenges well in advance, providing time to study them in detail in cooperation with a wide range of partners and then take action to ensure they did not derail the overall campaign plan.

If integrated planning was a strength of the headquarters, supervising execution of logistical tasks and monitoring the current situation was initially a weakness at SHAEF, most likely because leaders trusted COMZ to perform this role. When the logistics crisis emerged in early September, SHAEF realized that they were getting two very different stories as to what was happening from COMZ and the two army groups. With no independent information system of their own, SHAEF did not know which reports to believe and could not decide exactly what was broken and therefore what must be fixed. SHAEF decided to create its own sources of reliable data, including robust liaison teams, more frequent coordination meetings, and reoccurring

reports from subordinate organizations. By pulling confirmed data from several sources, SHAEF was able to recreate the integrated maneuver and logistics forecasts that had proven to be so helpful in North Africa and during the final preparation for Overlord. How this work informed operational decision-making at SHAEF throughout the summer and fall will be examined in the in the next section.

Planning and Controlling Operations on the Continent

An examination of SHAEF's records reveals a pattern of effective coordination between the G-3 and G-4 portions of the staff, and among SHAEF, 21st Army Group, and eventually 12th Army Group. As might be expected, the slow pace of the Allied advance during the first six weeks of Overlord made this initial collaboration much easier. Operating from long-occupied and robustly resourced facilities, agencies had time to study relatively static problems, discuss and evaluate solutions, and select a method of overcoming them. The logistics plans section and JPS drove these processes within SHAEF and had access to brief their results to senior leaders through the CAO weekly meeting and chief of staff daily meeting. In turn, Smith and Gale had time to confer with Eisenhower and his subordinate commanders and recommend changes to the campaign plan if appropriate. ETOUSA/COMZ did not seem to participate in the early stages of this cycle, but Lee was brought into the process as a regular attendee at the CAO weekly coordination meeting and commander huddles with Eisenhower. Before the breakout achieved by Cobra, logisticians at SHAEF managed to convince Eisenhower and Montgomery to avoid any risky operations and to stick to the original outline for the ground campaign. SHAEF managed to stay in step with, if not in front of, new maneuver concepts published by the 21st Army Group staff and to insist that new proposals be vetted by the entire joint community and be

judged logistically possible before taking them to Eisenhower for final decision. Even when Eisenhower chose to disregard the advice on supply and maneuver offered by Montgomery or the planners at SHAEF, he did so fully informed about the current logistical situation and the potential implications of his choices. Through mid-September Eisenhower demanded that some objectives be captured based solely on their value to the theater sustainment infrastructure, and generally he acknowledged that other objectives were beyond the Allies' reach until certain logistical preconditions had been met.

But this prudent and sequential approach was disregarded twice, once during the last week of August, and a second time between 10 and 15 September. In the first instance Eisenhower was willing to gamble that the logisticians could keep six pursuing corps moving to the eastern border of France (and perhaps beyond) and that the German Army in the West was too shattered to cause any major problems. In the second case, his two army group commanders convinced him to make three simultaneous pushes they hoped would approach and perhaps cross the Rhine while postponing an all-out effort to open Antwerp. Eisenhower found this risk easier to stomach because Bradley and Lee convinced him on 12 September that supplies were sufficient to pull it off and that the overall logistical situation was steadily improving. Rather than sticking to his decision to prioritize Montgomery's thrust at Arnhem with a U.S. supporting attack by 1st Army against Aachen, Eisenhower allowed his subordinates to conduct piece-meal attacks all along the front throughout September and October. At one point in mid-September SHAEF was conducting three separate ground attacks near the Westwall, had committed all their air transport to Market Garden, and were continuing to pour resources into supporting VIII Corps' attack against Brest. None of these operations addressed the Allied transportation crisis that was bringing the pursuit to a halt. After doing so well during the first ten weeks of the

campaign, disciplined decision-making at SHAEF seemed to collapse. Ironically, SHAEF continued to pursue the capture of Brest, an objective motivated largely by logistical concerns, long after doing so made any sense in the big picture.

Eisenhower never wavered in his demand that Montgomery treat Antwerp and the Scheldt as his most important objective, but he looked the other way when Montgomery postponed putting his full energy into this task for over a month. Bull knew that 21st Army Group was not dedicating the forces and attention to this objective that were justified by Eisenhower's priorities, but the G-3 and other senior officers at SHAEF could not force a confrontation and resolution until 16 October. By then it was far too late -- the port would not begin handling ocean-going ships until late November. Without a major port located significantly closer to the front, COMZ could not solve the supply and transportation problem preventing a new large-scale attack aimed at reaching and crossing the Rhine. By early October Eisenhower realized that he could not land a decisive blow against the German Army and resume mobile operations before winter weather changed the nature of the campaign. In hindsight, SHAEF might have been better served by pursuing a series of phased, sequential operations designed first and foremost to open Antwerp before moving on to alternatives. Montgomery was right when he advised Eisenhower to mass all his transportation behind one army group in order to sustain a deep thrust that could obtain decisive operational objectives, but he did the supreme command no favors when he virtually ignored Antwerp until 16 October. The Allied advance that fall was stopped by logistical difficulties that several agencies had seen coming and that could have been overcome with a different approach to the ground campaign.

Second Thoughts about the Transportation Plan?

Once safely ashore in Normandy, one of the first decisions that faced senior leaders at SHAEF was to decide whether or not to continue to execute the transportation plan into July and August. The transportation plan was the aerial support campaign conducted by AEF, assisted by 8th Air Force and the British Bomber Command, designed to prevent rail support to German operations in Normandy both before and after D-Day. Sometimes called the attrition or communications campaign, it was developed by Professor Solly Zuckerman and E.D. Brant based upon their observations and study of air operations in support of the landings on Sicily and southern Italy.⁵⁴ Supported by Leigh-Mallory and Tedder, the plan called for a 90-day campaign targeting what would eventually be 101 railway maintenance and support centers in France, the Low Countries, and western Germany. The objective was to prevent the flow of German supplies and reinforcements to Normandy both before and after the landings, but without tipping off exactly where the Allies intended to land. Although Churchill, Harris, Doolittle, and Spaatz resisted the plan strongly for several reasons, Eisenhower won military support for it on 25 March and lukewarm political support from Churchill in mid-April. In May the campaign grew in intensity when interdiction targets were added to the list. Fighters, fighter-bombers, and the heavies went after bridges and supply depots in northwestern France. In the last two weeks prior to D-Day, Operation Chattanooga Choo-Choo specifically targeted rolling stock, destroying 475 locomotives and cutting the rail line at 150 locations.⁵⁵ Air attacks associated with the

⁵⁴ Pogue, 127. Wesley F. Craven and James L. Cate, *The Army Air Forces in World War II. Volume Three: Europe: Argument to V-E Day* (Chicago, The University Press, 1951), 73-74. Webster and Frankland, 245. The transportation plan could not be described as a traditional aerial interdiction operation because of the anticipated duration and scope of the targeting plan. As originally designed, the campaign would last 90 days before D-Day, and at least another month after the landings. Targets were located in France, Belgium, and Germany, and therefore required heavy (four-engine) bomber support.

⁵⁵ Craven and Cate, 156.

transportation plan and efforts to cut the German supply lines continued after 6 June, focused on all three target sets: rail maintenance and marshalling facilities, bridges over the Seine and Loire, and rolling stock. The results were not perfect but they badly disrupted resupply and the delivery of heavy equipment by rail into the Normandy area. Forced to detrain and road march to Normandy, German reinforcements coming from all over France and even from the eastern front were slowed down, shot up, and separated from their tanks and artillery.

But unfortunately for the Allies, destroying French rail infrastructure cut both ways. As the battle in Normandy dragged on, leaders at SHAEF realized that they were doing more and more damage to the rail system that would be vital in sustaining Allied forces east of the Seine. SHAEF had hoped to harness trains to provide a major portion of Allied transportation capacity between D+60 and D+90, but by D+50 they were still attacking the French rail system as hard as they could. The irrationality triggered some leaders at SHAEF to ask if there were targets that might be removed from the list. Were some targets immaterial to the defense, or the ability of the German army to retreat if defeated? In support of the transportation plan experts had argued that the Germans would destroy these assets during their retreat anyway. But if their defensive line collapsed quickly, would they really have the time to rip up everything currently on the target list?

At the SHAEF chief of staff meeting held on 16 June, LTG Morgan asked MG Bull to reconsider some of the targets associated with the transportation plan. If the Germans did not have access to the facilities or the time to destroy them, perhaps the bombers could be redirected.⁵⁶ As the senior leader within the command group with the deepest understanding of the intricate linkage between all the moving parts associated with Roundup/Overlord, Morgan

⁵⁶ Minutes from daily CoS meeting, 16 Jun 44. RG 331, Entry 1, Box 7.

realized that each bridge and train servicing area that could be preserved would make future logistical support that much easier. In addition, any French civilian casualties that could be avoided would calm the Prime Minister and make the recruitment of labor on the continent a bit easier. Unsuccessful in his bid to curb the ferocity of the transportation plan in mid-June, Morgan's insights were validated when Crawford pointed out on 22 July that, based on the rate of destruction from bombing attacks, the Allies had not requested enough railway bridge repair material and were likely to run out by September.⁵⁷ This observation did not save any bridges for the next three weeks, but it showed that the logisticians were keenly aware of the problem and were committed to stopping the bombers as soon as they could convince the commander to do so. The idea that the transportation and interdiction plans had outlived their usefulness was reinforced when on 28 July Bradley sent a note to Eisenhower explaining that his units were struggling to make progress south of Saint-Lô because of all the destroyed bridges.⁵⁸ On 2 August SHAEF placed the bridges in Brittany off limits to aircraft and added the bridges across the Seine and Loire to the restricted target list on 17 August.⁵⁹ In the meantime, Allied airpower continued to attack relentlessly not only German formations but also road and rail network targets west of Paris until the operation around Falaise was nearing its conclusion.

There are hints that senior leaders had voiced concerns over the impact of the transportation plan on friendly logistics back in the spring, but there is little in the historical record to support the claim that these comments were made before the damage was already done. In the official history of the U.S. Army Air Force in World War Two, Craven and Cate claimed

⁵⁷ Minutes from weekly CAO meeting, 22 Jul 44. RG 331, Entry 34, Box 24.

⁵⁸ Note from Bradley to Eisenhower, 28 Jul 44. Pre-Presidential Papers, Box 13, DDE Presidential Library. Destroyed by Allied bombing, not German demolition.

⁵⁹ Craven and Cate, Vol. III, 260. 12th AG asked for the Seine and Loire bridges to be added to the restricted target list on 2 August, and again on 8 August.

that “British generals from SHAEF” objected to the plan advanced by Leigh-Mallory and Zuckerman, pointing out that destruction of French transportation networks would cut both ways.⁶⁰ BG Plank, the ADSEC commander, backed up these assertions in a letter he sent to Ruppenthal in 1951 during the preparation of *The Logistical Support of the Armies*. Plank claimed: “Beginning late in June supply and transportation officials repeatedly asked that railway bridges, tunnel, and viaducts, whose repair entailed large expenditures of effort, be spared in the hope that the enemy would not destroy them in retreat.”⁶¹ Plank’s observations were not unique to the U.S. Army. COL Poole, the logistics planner at 21st Army Group, wrote to MG Graham on 21 August “The AF are still shooting up locos, and the Maquis destroying tracks. Has not the time come when this is more of a hindrance to us than to an enemy who has no reinforcements to send up, and only defeated armies to supply? We shall want all the rolling stock that we can find.”⁶² Poole was correct, but he was also entirely too late to do much good for the Allied cause when it came to preserving French rail infrastructure.

Even though they evidently failed to stop the transportation plan as soon as they would have liked in July and August, SHAEF learned from the experience and took a different approach in during the final offensive across the Rhine. On 4 April 1945 the SHAEF G-3 published the memorandum “Air Attack on Transportation Targets in Germany,” designed to provide proactive measures to show how to restrict and then stop aerial bombardment of crucial

⁶⁰ Craven and Cate, 73, 75-76. The authors did not specify which British generals, or provide any citations backing up the claim, but suggested that the first rumblings of dissension arose in late January at AEAFF bombing committee meetings. The authors implied that Brooke was against the transportation plan at least in part because of the impact on Allied logistics, and we know Morgan was one of the first leaders to suggest a curtailment of bombing to preserve transportation infrastructure.

⁶¹ Ruppenthal, Vol. I, 500, note 11. Ruppenthal cites a CAO meeting on 26 August and note from Plank dated 10 July 1951. It seems likely that there were rumblings in late June and July, but the issue did not reach command channels until mid-August when Bradley asked SHAEF to stop attacking some targets associated with the transportation plan.

⁶² Poole to Graham “Admin Appreciation” 21 Aug 44, WO 205/671 Overlord Maintenance Appreciation, G (Plans) 21 AG, National Archives, Kew.

infrastructure in western Germany.⁶³ The document directed the G-4 to form a working group along with the engineers and air staff to develop a restricted target list. If the restricted target list was put into effect, “[t]hese targets [are] not to be destroyed without agreement from this headquarters except in case of urgent operational necessity.” In the official history of the U.S. Army, the difficulties caused by unrelenting air attacks on French transportation infrastructure were accepted as a necessary evil. But it is obvious that officers at SHAEF and 12th AG had second thoughts during the fall campaign and took measures to ensure tighter control during the last offensive.

It is easy, with the benefit of hindsight, to conclude that the Allies continued to attack bridges, rolling stock, and rail repair facilities for far too long after the success of Cobra. The problem with this line of reasoning is that it demands entirely too much of Allied intelligence capabilities to have pinpointed the precise moment when a certain effect had been achieved against the enemy. Russell Hart demonstrated that Allied aerial interdiction of the German 7th Army’s main supply line running back to Le Mans and then over the Loire played a major role in the success of Operation Cobra.⁶⁴ Allied aircraft knocked out the most important bridge over the Loire at St. Cyr on 15 July, and the Germans could not restore rail service to Le Mans until 25 July. On that day, 7th Army received its first large shipment of fuel and ammunition in ten days. At the start of Cobra, the defending German divisions had 30% of their authorized ammunition reserves; as resistance cracked on 26 and 27 July, 7th Army reported that they were completely out of 88mm anti-tank ammunition and that they had been forced to abandon two companies of Panther tanks when they ran out of fuel.⁶⁵ Hart argues that the Germans broke at Saint-Lô but

⁶³ RG 331, Entry 23, Box 48.

⁶⁴ Russell A. Hart, “Feeding Mars: The Role of Logistics in the German Defeat in Normandy, 1944” *War in History* 3, no. 4 (1996): 418-435.

⁶⁵ *Ibid*, 432-433, note 26 and 28.

held on around Caen because the Allies successfully interdicted 7th Army but could not do the same to 5th Panzer Army. The line of communications running east across the Seine proved to be more robust than the one running south across the Loire. Hart did not address German logistics during the attempted counterattack around Mortain, but it is easy to conclude that Allied interdiction caused the same problems as the Germans tried to mass troops and supplies during that operation.

Interdiction played a key role in the success of Cobra and in the U.S. ability to hold on at Mortain, and bridges across the Seine and the Loire were the easiest and most logical targets to help accomplish that effect. From 21st Army Group's and SHAEF's perspectives, it was difficult to determine when the disadvantages of such an aerial campaign began to outweigh the advantages. If destroying the bridge at St. Cyr on 15 July was a good thing, then perhaps the Allies should have continued to interdict the bridges and ferries over the Seine beyond 17 August. There are valid arguments that the Allies could have done more to disrupt the Germans escaping over the Seine by ferry after the Battle of Falaise and that the failure to do so contributed directly to the recovery of the Germans' defensive line along the Westwall a few weeks later.⁶⁶ But based on how the U.S. Army preferred to fight, it should come as no surprise that SHAEF prioritized interdicting German lines of communication rather than preserving them for Allied use. The U.S. Army in Europe tended to be most comfortable with direct, attritional warfare waged across broad, continuous fronts, operations designed to grind down enemy formations. Examples of penetrations, mobile operations, and deep encirclements designed to break cohesion and the will to resist existed, but they tended to be the exception and not the

⁶⁶ Ellis, *Victory in the West*, Vol. 1, 455. Most of the men and equipment that got out were ferried across the river between 25 and 27 August.

norm. Most U.S. generals in Europe tended to think about a pace of operations similar to that of World War One, and so they were not overly concerned about preserving or quickly repairing hundreds of miles of rail line to sustain deep operations.

Neptune and the Lodgment

From the earliest days of the campaign in France, what really happened diverged from what had been planned by 21st AG and SHAEF, forcing the command to adjust the scheme of maneuver and logistics support plan almost immediately. What quickly emerges from a study of how this staff interaction occurred is an appreciation of the interconnected nature of air, navy, and army operations in France that summer. Because SHAEF was the only headquarters formally authorized to coordinate the joint campaign and capable of doing so, they had to play a central role in driving changes to the original ground and theater campaign plan. It was one thing to say that SHAEF had delegated control over ground operations to Montgomery, but the reality was that only SHAEF had the knowledge, relationships, and authority to pull together an integrated understanding of the situation and underwrite risks for the other two services and COMZ.⁶⁷ An examination of the daily back-and-forth between SHAEF and 21st AG planners also shows how seriously logistical constraints were accounted for during the first two months of Overlord, but how this influence faded over time.

Even before the Allied lodgment in Normandy was secure, SHAEF and 21st Army Group started refining the concept for the next stages of the campaign. This group of plans were generally referred to as “Post-Neptune” or “Post-Overlord” operations, but the specific set of

⁶⁷ Conceptually it is possible for a lead service to synchronize a joint concept before seeking final approval from the theater commander, but Montgomery did not have the personality or reputation to do so by June 1944. Additionally, his staff did not have the time, subject matter experts, or information at their fingertips to do the work.

actions designed to reach the Seine and liberate Paris was code named “Lucky Strike.” The first concept for the operation was developed by 21st Army Group; initially it was designed to break and then trap German forces in a pocket contained by the Atlantic Ocean, the Seine River, and a combined U.S. – U.K. right hook consisting of half-a-dozen armored divisions.⁶⁸ The Germans would be prevented from escaping across the Seine by a combination of air attacks against bridges and ferry sites and possibly by airborne forces landed along the river. But 21st AG realized that, in accordance with the initial campaign plan, the U.S. Army would not be available until they had cleared the Brittany Peninsula and established depots around Rennes. This was problematic, because Montgomery realized he could not execute Lucky Strike without some U.S. assistance.

What would help would be some way to shorten the amount of time needed to make a few U.S. divisions available for Lucky Strike, and this largely centered on securing a major port in Brittany as quickly as possible. The 21st AG’s first proposal was an air, land, and sea advance called “Hands Up” that aimed to seize and hold on to the area around Quiberon Bay until a ground force advancing from around Avranches could join them. Quiberon Bay was important because it was linked to Operation Chastity, COMZ’s project to convert the large natural harbor into a first-class port that was tied into the French rail network. At this stage, the planners at SHAEF and 21st AG did not realize that the Navy was unwilling to conduct operations or start work at Quiberon Bay until the submarines at Brest were bottled up and the Allies had access to intermediate shelter somewhere nearby.⁶⁹ These reservations would emerge over the coming two weeks.

⁶⁸ “Appreciation of Possible Development of Operation Lucky Strike” 21st AG, 18 Jun 44. RG 331, Entry 26, Box 74. Delivery of this document triggered SHAEF to issue a planning directive to the JPS two days later.

⁶⁹ 21st AG provided SHAEF a general outline of Hands Up on 17 June as an isolated operation designed to use a small airborne force to open approaches for a seaborne assault. This force would then hold on, reinforced and

The outline for Lucky Strike that was passed from 21st AG to SHAEF on 18 June concluded by asking for U.S. feedback on the operation: “Any time after D+60 a general pursuit may develop which will increase the L of C across the Seine and subsequently west, northeast, southeast or a combination of all three...a proportion of the Allied forces will be striking southeast on the south bank of the Seine towards Paris. Is this feasible and if not when must Chastity be secured? How many US divisions can be maintained between D+30 and D+70 with and without Chastity?” A few days later SHAEF began to examine what was logistically feasible should the Allies strike out towards Paris without first securing any ports in Brittany.

The first reaction from logisticians and the Joint Planning Section at SHAEF was outright dismissal of the idea that the U.S. Army could strike toward Paris before opening a few ports in either Brittany or perhaps along the coast of Bordeaux. Acknowledging U.S. resistance to even considering an advance on Paris until a major port was available in Brittany, 21st AG created “Beneficiary” to provide a second option for an air-land-sea coup de grâce, this one targeted at Saint-Malo. The 21st AG issued a planning directive to FUSAG for Hands Up and Beneficiary on 24 June; the British wanted to know if the Americans thought either option feasible, within the overall context of Lucky Strike. The staff at 21st AG asked the question of FUSAG, but realistically only SHAEF was positioned to provide an accurate answer.

The initial response from the working-group level at SHAEF was critical of both operations. The joint plans assessment made it clear that, in accordance with the original concept for the campaign, the first objective after breaking out was to secure the ports of

supported by air and sea until a breakout force could link up from the Cotentin. Over the next two weeks the navy planners at SHAEF pointed out that Ramsey was uncomfortable conducting an amphibious operation at Quiberon before some portion of Brest was available to Allied ships and the German submarines there destroyed or at least pinned up.

Brittany; Lucky Strike must not interfere with accomplishing that goal.⁷⁰ The JPS at SHAEF did not favor either Hands Up or Beneficiary – it would be easier and less risky to take Saint-Malo or Quiberon Bay advancing from Normandy after a breakout from the lodgment. Airborne forces would probably be easier to integrate into Lucky Strike and should be husbanded to do so. However, SHAEF believed that the U.S. Army could pursue two objectives simultaneously, six divisions advancing into Brittany and six detached to support Montgomery’s southern flank. Although this support was conceivable, McLean’s team recommended that 21st AG should try to accomplish the goals of Lucky Strike on their own if at all possible. If six U.S. divisions were committed to Lucky Strike, air transport would have to supplement truck transport in order to keep the Americans supplied all the way to the Seine. It was obvious from the first assessments of Lucky Strike prepared by SHAEF planners that they were extremely concerned about the inadequacy of U.S. motorized transport and about the need to supplement its capacity with numerous aircraft. Anticipating that his section would be directed to figure out how to supply six U.S. divisions all the way to the Seine, Whipple asked the chief of the G-4 Movement and Transport planning section to study how long it would take to establish depots around Alençon for that purpose.⁷¹

The same day that the SHAEF JPS recommended abandonment of Beneficiary and Hands Up and hedged U.S. support to Lucky Strike, 21st AG published a major revision of the plan to reach the Seine. The document is useful because it provides a perfect example of the difference between how leaders at SHAEF thought about large ground operations in comparison to the methods used by Montgomery. Plans created by U.S. officers during this period did not use the

⁷⁰ Preliminary assessment of proposed operations by 21st AG, SHAEF JPS, 27 Jun 44. This was a draft document created by O6s for further consideration by their superiors, not a final decision by SHAEF.

⁷¹ BG Moses, the D/MGA at 21st AG and the future G-4 for 12th AG, was included in all internal traffic among SHAEF G-4 log planners and the correspondence between SHAEF and 21st AG maneuver planners.

concept of phases, beyond the very generic phase lines used to depict Allied progress across France in 30-day increments contained in Overlord planning documents. The original phase lines used to frame the Overlord campaign, developed largely by 21st AG, implied a certain sequence of events that would progress from securing the lodgment, conducting the initial breakout, clearing Brittany, advancing to Paris, and eventually to the penetration of the Westwall by early summer 1945.⁷² The idea of linking together a series of objectives with a corresponding timeline and outlay of air and ground forces allocated to each objective was very much a British technique at this stage in the war.

The concept for Lucky Strike, published by 21st AG on 27 June, broke the overall operation into four phases with two major options for a knockout punch to be delivered during the second phase. It anchored each phase to a rough schedule, basing the timeline on how long it would take to reach each intermediate objective and then amass the forces and supplies necessary to accomplish the next portion of the plan. Each of these intermediate objectives fed on one another, eventually enabling the completion of the overall campaign objective. This might seem like a minor issue, but the entire structure of the operation depended on acknowledging the requirements of mechanized warfare. Also, it reflected the approach Montgomery had used in North Africa to advance from Egypt to the Libyan-Tunisian border. Typically, a large force of twenty motorized divisions could not attack in three or four directions simultaneously because of logistical constraints. It was therefore necessary to divide any major operation into pulses, where a portion of the force would accomplish a preliminary objective, pause to reorient and shift supplies, and then move on to the next phase.

⁷² Even the concept of developing these phase lines from D+30 to D+360 was a British initiative worked out between COSSAC and 21st AG.

Montgomery had his staff develop two options for the critical phase of Lucky Strike – one in which U.S. support was available, and a second plan should the British be forced to go it alone. The preferred solution was option one, which would use about six U.S. armored and motorized divisions to hit the Germans with a right hook while the Commonwealth forces pushed them back on the Seine. Without U.S. assistance, the best Montgomery could hope for was a broad frontal advance on Paris designed to seize ground, but that would see most of the enemy escape to fight another day. SHAEF eventually incorporated 21st AG's phases into their own version of Lucky Strike, and Whipple and Vissering got to work figuring out how long COMZ and 12th AG needed between phases one and two in order to build up the supplies needed to reach the Seine. On 28 June the JPS recommended the addition of the phase line labelled X+15 in figure 5.1 to the SHAEF concept for Lucky Strike. The idea was that a five- or six-day pause along that line would give COMZ enough time to shift fuel and ammunition dumps forward and to prepare a few tactical airfields to guarantee fighter support for the advancing divisions during phase two. This latest appreciation of Lucky Strike published by SHAEF also conceded that the Allies did not need to clear all of Brittany – only enough to gain access to Saint-Malo and Quiberon Bay.

The slow advance out of Normandy had impacts on the Allied campaign plan beyond a search for ways to use U.S. divisions to conduct two simultaneous operations. In a short memo on 29 June, Bull informed Eisenhower that Bradley had decided to switch to an alternate troop landing schedule for Operation Neptune. Bradley wanted to prioritize infantry replacements and new combat formations at the expense of service troops until German resistance in the hedgerows had been broken. The issue had been raised two days earlier by Churchill, who agreed with Bradley. Bull was against the idea of changing the carefully orchestrated

deployment plan to prioritize short-term needs over long-term requirements, but he was overridden by Bradley and Eisenhower.⁷³ Around the same date, Whipple noted that the idea was gaining traction at 21st AG and SHAEF that Lucky Strike might eliminate the need to clear Brittany and develop Quiberon Bay, a notion he strongly disagreed with.⁷⁴ Whipple's position was somewhat weakened when BG Moses presented the FUSAG appreciation of Lucky Strike on 3 July, concluding that the U.S. could provide six U.S. divisions for the operation with the logistical assets currently on hand. Trucks and planes would have to be massed to resupply the advancing divisions while everyone else stood down, but it could be done.⁷⁵ The next day the SHAEF JPS published another refinement of their own appreciation of Lucky Strike that called strongly for simultaneous drives into Brittany and Paris and for a pause along the X+15 phase line sufficient to build up supplies before moving on towards Paris. Under fire from several directions, SHAEF resisted pressure to drop carefully developed plans and look for shortcuts, instead sticking to their recommended sequence of actions needed to establish a firm base of supply on the continent. It was also obvious that none of the senior leaders briefed on Lucky Strike between 28 June and 4 July considered it unrealistic to expect a voluntary pause that allowed defeated German forces to break contact and withdraw unmolested. It seems that the maneuver and logistics planners believed it was necessary and realistic to accept a halt for up to

⁷³ Note from Bull to G-3 Ops, 27 Jun 44. Bull Papers, DDE PL. Bull directed BG Nevins to draft a response from Eisenhower to the Prime Minister to address the recommendation that SHAEF prioritize landing combat over service troops in Normandy over the coming weeks. Bull was against the idea; after the breakout the U.S. logistics challenge would be greater because they were on the open or moving flank and would have to cover more ground. Once changed, it would take weeks to restore the proper balance between combat and service forces. Two days later Bradley made the discussion a moot point, and it is highly unlikely Bradley would have made this call without consulting Eisenhower first.

⁷⁴ Lucky Strike planning file, memo by COL Whipple, 1 Jul 44. RG 331, Entry 34, Box 34.

⁷⁵ FUSAG Admin Appreciation for Lucky Strike, 3 Jul 44. This eight-page document was produced by the U.S. team imbedded with 21st AG and endorsed by BG Moses. It was a repetitive, meandering document that demonstrated how inexperienced U.S. logisticians were in trying to match maneuver objectives to logistical constraints and provide a recommendation to commanders.

a week in order to drag supplies forward before continuing to exploit the breakout from the lodgment. Apparently, the G-3, G-4, CAO, and planners from 21st AG did not challenge this assumption.

SHAEF was never finished with a staff study or appreciation of a proposed operation until that event happened or the possibility of it happening no longer existed. Attached to the updated document published by SHAEF on 4 July was a table that broke Lucky Strike into six critical tasks and then assigned representatives from SHAEF and subordinate headquarters to a working group charged with further study of the problem. BG Moses was directed to supervise a team that included COL Albrecht from COMZ (really the Forward Echelon of COMZ or FECZ at this stage), COL Whipple from SHAEF, and COL Poole from Q plans at 21st AG in order to develop the U.S. administrative appreciation of the new proposal.⁷⁶ This work table demonstrated exactly how joint and combined planning at the theater level really worked by the summer of 1944. Headquarters tried not to develop products in isolation and then ship them around to one another, meeting instead face to face across three layers of the chain of command with experts from every relevant community to build a realistic plan as quickly as possible. The Allies realized that when time, proximity, and technology permitted, collaboration across the organization was the best way to work out solutions to tough problems and that a rigid division of labor was often unrealistic.

General Eisenhower weighed in on this ongoing process on 6 July when he sent a note to General Smith that revealed a good deal about how decision-making at SHAEF really worked. The SAC asked Smith re-examine the possibility of using the British 1st Airborne Division and Polish Airborne Brigade to seize Saint-Malo around the first week of August. Eisenhower

⁷⁶ SHAEF working appreciation of Lucky Strike, 4 Jul 44. RG 331, Entry 26, Box 74.

explained that his air leaders had already indicated their support for the idea, adding that an amphibious force could possibly link up with the airborne troops as soon as beaches or the port itself had been cleared. Initial resupply would come by air until beaches or ports could handle administrative traffic. Smith was directed to get input from the Navy and 21st Army Group, but Eisenhower wanted a fresh appraisal of the feasibility of the operation.⁷⁷ This note made it clear that Eisenhower was aware that the JPS had shot down 21st AG's concept for Beneficiary back in June, but he thought that changing conditions in Normandy (or perhaps a push from Tedder or Montgomery) justified a reappraisal. With the commander now heavily involved in the process, senior leaders at SHAEF scheduled a conference for 11 July at the headquarters of 21st Army Group to reexamine all three possible operations. Gale and Bull were dispatched to represent SHAEF.

The results of this meeting were not surprising, but it was a productive event because senior leaders gained a deeper understanding of why the logistics community was resisting some of the proposals. The group reached a consensus that Brittany was initially more important than an advance to the Seine, that Beneficiary (Saint-Malo) was not worth the effort and risk, but that Hands Up (Quiberon Bay) warranted further study.⁷⁸ The Navy finally convinced the group that securing Brest was essential before trying to develop Quiberon Bay. Because of possible enemy naval activity as well as concerns with the weather and tides, Chastity was too risky without capturing Brest first. Montgomery and Bradley left the meeting having agreed that 3rd Army would be able to handle Brest and Quiberon Bay while 1st Army supported the British during

⁷⁷ Letter, Eisenhower to Smith, 6 Jul 44. RG 331, Entry 26, Box 74. There is also a note from a group captain from the AEF plans section to his counterpart at CATOR dated 7 July explaining that all the pushback against Beneficiary had come from the G-4 and Q staff planners, who thought that the effort required to capture Saint-Malo would be completely unjustified based on the tiny capacity of the port. This note reinforces Eisenhower's statement that a reconsideration of Beneficiary come from within the air force community at SHAEF.

⁷⁸ Meeting notes, 11 Jul 44. RG 331, RG 26, Box 74.

Lucky Strike. The JPS at SHAEF endorsed the decision to abandon Beneficiary the next day and provided a revised assessment of Hands Up. An airborne operation was possible, but amphibious landings were too risky. The airborne forces could hold their objectives for three to five days, but then would have to be rescued by ground forces. The JPS stuck to their original conclusions and recommended Smith tell Eisenhower that both Beneficiary and Hands Up did not offer sufficient advantages to offset the significant risk involved.⁷⁹

By this point the Allies were running out of time to get Chastity back on its projected schedule. In the original concept approved by Smith on 23 April, construction was slated to begin on 16 July.⁸⁰ The British continued to plan and prepare for Beneficiary and Hands Up, but in mid-July 21st AG was forced to inform Combined Operations Command and Headquarters, Airborne Troops that the Navy had cancelled a planned reconnaissance of the beach areas around Saint-Malo, citing the danger of mines and small attack boats.⁸¹ Crawford engaged Smith on 19 July in an attempt to convince him to cancel Chastity and focus on Brest as a better, and quicker, alternative.⁸² McLean's joint planning section examined the recommendation on 21 July and the recommendation was quickly endorsed by General Napier, the chief of the movement and transportation section within the G-4. On 21 July the JPS informed Smith they were still awaiting an official response to the suggestion from ETOUSA, but that they had heard that Lee had given up on Chastity and agreed with Crawford that Brest was an adequate substitute.⁸³ By

⁷⁹ Letter, JPS to Smith, 12 Jul 44. Both Saint-Malo and Quiberon Bay (QB) were tough nuts to crack from the air. The number and dispersion of heavy artillery and anti-aircraft guns required a large number of airborne troops to land too far away from their final objectives. Until all the heavy guns were knocked out, it was too dangerous for amphibious reinforcements to arrive. Successful airstrikes might change the math, or the Navy could underwrite the risk of landing under this fire, but the planners could not make these decisions. Discharge tonnage at Saint-Malo would be tiny, and QB was worthless without Brest. Therefore, both operations were just not worth it.

⁸⁰ Record of SHAEF decisions made at the CoS meeting, 16 Jul 44. RG 331, Entry 1, Box 7.

⁸¹ Cable, 21st AG to COHQ and HQ, Airborne Troops, undated. RG 331, Entry 26, Box 74.

⁸² Office memo, Crawford to Smith, 19 Jul 44. RG 331, Entry 26, Box 74. Smith agreed to examine the issue and passed the directive to do so to the JPS.

⁸³ Memo, JPS to Smith, 21 Jul 44. RG 331, Entry 26, Box 74.

late July the consensus among the SHAEF and ETOUSA logisticians was that the best compromise available was to restore Brest as quickly as possible once it was captured.

Breakout to Breakdown, 29 July to 4 September

After six weeks of worrying about the glacial pace of the Allied advance and its impact on the long-range logistical situation, things changed drastically when Operation Cobra managed to punch through the German defense between 27 and 29 July. But as a result of the deep penetration by 3rd Army and the total collapse of the German left flank, SHAEF almost immediately began to reconsider the commitment to tackle Brittany first, or at least concurrently with Lucky Strike. By 3 August Eisenhower, Montgomery, and Bradley had decided that unhinging the German defense in western France was more important than rushing into Brittany; 21st AG directed three armies to envelop the Germans west of the Seine while one corps from 3rd Army cleared Brittany.⁸⁴ At this point in the campaign the only short-term logistical concerns bothering senior leaders at SHAEF were the backlog of unloaded cargo ships, the rate at which LSTs were being damaged while serving as impromptu supply vessels, and a shortage of artillery ammunition among U.S. forces.⁸⁵ Securing a deep-water port somewhere in Brittany would help with some of these problems, but SHAEF's immediate priority was to exploit the gap around Avranches to turn the German western flank and bag the two armies trying to hold the base of the Cotentin Peninsula.⁸⁶ Patton's 3rd Army encircled Rennes by 4 August, reached Mayenne and Laval a day later, and by the evening of 8 August had captured Le Mans, deep behind 7th and

⁸⁴ Weigley, 175. 21st AG message to subordinate commands, 29 Jul and 4 August. At first 21st AG planned to halt the U.S. Army at the base of the Cotentin and advance with only 1st Canadian and 2nd British armies. Four U.S. divisions would clear Brittany during the month of August.

⁸⁵ CAO meeting notes, 29 Jul 44. RG 331, Entry 34, Box 24.

⁸⁶ The debate behind that decision, and the impact on the campaign, will be examined in detail in the following section.

5th Panzer armies. As early as 5 August SHAEF began to worry that Patton was outrunning his supply lines, but Lee dismissed their concerns, promising that trucks were already delivering huge quantities of fuel and ammunition and that aerial resupply was adding 1,000 tons a day to sustain the advance (which was not even close to accurate).⁸⁷ But Lee was correct when he said that COMZ could keep Patton resupplied, and over the next three weeks they managed to keep 3rd Army moving and fighting all the way to the Seine.

The breakout and rapid progress towards the Seine in the first week of August triggered a reappraisal of what might be accomplished over the coming weeks. On 12 August Whipple provided the audience at the CAO weekly meeting a briefing on how the Allies could sustain a drive to the Seine, and Napier shared a progress report on efforts to restore rail service beyond Saint-Lô and Caen.⁸⁸ In Napier's opinion, by the time the Allies reached the Seine in late August, Allied rail service would terminate at Rennes and Le Mans. Based upon these limitations, maneuver planners recommended that, after a short pause to build up local depots, the British cross the Seine north of Paris in order to open Le Havre and Rouen, assisted by two U.S. corps north of Paris. These objectives along the English Channel provided the added benefit of eliminating most of the German V1 launch sites. Sustaining any drive east of the Seine would require massed air transport, and the planners recommended that these operations not begin until early September when rail repair and the POL pipeline reached Le Mans.⁸⁹ Even under these optimal conditions, SHAEF would not be able to support more than two U.S. corps on the east side of Paris.⁹⁰ By the time Gale chaired his weekly meeting on 19 August, it was

⁸⁷ Ibid, 5 Aug 44.

⁸⁸ Ibid, 12 Aug 44.

⁸⁹ SHAEF JPS Lucky Strike assessment, 12 and 17 Aug 44. RG 331, Entry 26, Box 74.

⁹⁰ "Post-Neptune Ops Section III Crossing the Seine and Capture of Paris", 17 Aug 44. RG 331, Entry 23, Box 52. Rail service from Cherbourg to Paris was the prerequisite for sustaining more than six U.S. divisions east of Seine in the minds of the SHAEF log planners. This was obviously too conservative an approach.

becoming more and more apparent that the ports in Brittany were going to be captured too late to be of any assistance in supplying the drive to the Seine.⁹¹ A note of panic began to creep into SHAEF discussions about the need to secure additional ports before the weather began to deteriorate but also about the futility of wasting resources in Brittany. In a remarkably short time, the logical sequencing of the Allied ground campaign in France seemed to be falling apart, overcome by the desire to capture or destroy as much of the retreating German formations as possible.

One solution to the Allied logistical strain was to shift priorities from capturing a port in Brittany to opening up channel ports between the mouth of the Seine and the Somme. On 22 August Whipple published a new logistics assessment of the plan to drive on beyond the Seine, three days before the attack was due to begin.⁹² Whipple believed it would take the British a week to reach Abbeville and the Somme using 26 divisions in the main attack (13 U.S and 13 Commonwealth). Eight divisions would be stranded in Brittany and Normandy, and four U.S. divisions would be supplied at a reduced rate and arrayed to protect the Allies' southern flank. All the heavy artillery and much of the anti-aircraft artillery would be left behind in order to reduce supply requirements and provide additional truck companies. The eight immobilized divisions and artillery battalions would provide trucks and manpower for 49 new truck companies. Attacking divisions, and their associated attachments, needed 535 tons of supplies a day, and the U.S. line of communications would be significantly longer than that of the British during this phase of the operation. All rail capacity would be dedicated to 12th AG, and the British would transfer four truck companies to COMZ. A total of 338 truck companies would be

⁹¹ CAO meeting notes, 19 Aug 44.

⁹² First draft of SHAEF logistics assessment for operations east of the Seine, 22 August 1944. Portions of this version were handwritten by Whipple, who shared his work with G-3 plans the next day.

massed under COMZ control to sustain the advance. But Whipple estimated that SHAEF needed 423 companies to meet all its requirements, broken down to provide the following support:

| | |
|---------------------------------------|---------------|
| Air Forces | 45 companies |
| Main Effort (13 U.S. divisions) | 155 companies |
| Four U.S. divisions on flank security | 61 companies |
| Move reserves to the front | 23 companies |
| Port clearance | 70 companies |
| Motorize one U.S. infantry division | 6 companies |
| Bulk POL and static ops | 63 companies |
| Total theater requirements | 423 companies |

The shortfall of 85 truck companies would have to be made up by rail and air transportation. SHAEF planners assumed that air transport could provide 1,000 tons of lift a day (equivalent to ten truck companies); the balance of the requirement would have to be covered by trains, which Whipple knew was impossible until mid-September at the soonest.⁹³ The logistics plans section did not come out and say it, but their work demonstrated that the upcoming offensive could not be supported for more than a few days before major problems began to develop. Whipple's team was right, but they were also ignored.

Just before the Allies crossed the Seine, leaders at SHAEF were still generally tempering maneuver objectives based upon logistical requirements and limitations, but this would gradually change over the coming days.⁹⁴ SHAEF and the two army groups had been examining ways to sustain a major force east of the river for weeks and were confident that they could keep a dozen divisions supplied on the far side with some creative approaches to logistics. In some respects

⁹³ The rail line from Cherbourg to Le Mans was opened on 17 August. Progress with repair east of Argentan and Le Mans had to await the outcome of the battle around Falaise and the German retreat out of the pocket between 16 and 21 August. As Whipple wrote his new assessment on 22 August, he had to know that the Allies were short about 75 truck company equivalents. By the end of August, the Allies could move 3,000 tons daily from Cherbourg to the west side of Paris, equating to 30 truck companies. Whipple knew that once the Allies crossed the Seine with 26 divisions they were living on borrowed time before major supply difficulties would begin to appear.

⁹⁴ In theory Eisenhower had agreed on 24 August to prioritize logistical support to Montgomery and 1st Army, but Bradley continued to commit resources off and on to Patton for the next three weeks.

the decision to advance beyond the Seine was taken out of the hands of senior leaders when tactical formations, in the course of maintaining pressure on the Germans retreating from Falaise, discovered intact bridges over the river and quickly pushed security forces to reach the far bank and prevent German demolition of the spans. Despite Montgomery's last-minute plea to prioritize and resource one main thrust, Eisenhower made it clear on 24 August that he wanted to continue to advance with both army groups. The northern forces, supported by the Airborne Army, would orient on Antwerp and the Ruhr; the southern group of armies would protect the British southern flank and advance on Metz and then the Rhine.

By late August both Eisenhower and Montgomery were under intense pressure from the British War Cabinet to eliminate V-1 launch sites along the Channel as quickly as possible, complicating SHAEF's freedom of action. The SHAEF JPS published a detailed examination of the V-1 and V-2 problem on 24 August; the paper recommended that the most efficient solution was to isolate or eliminate these facilities with a ground advance by 21st AG rather than trying to use airborne or amphibious landings.⁹⁵ That same day Gale attended a meeting hosted by MG Miles Graham, the MG (A) for 21st AG, that sought to outline the concept of the ground campaign over the coming two months and to ensure that it was logistically sustainable. The army group thought it would have bridgeheads over the Seine by 1 September, would reach the Somme two weeks later, and might seize Rotterdam and Antwerp around 15 October.⁹⁶ Planning was also underway at 21st AG for a large airborne operation to occur within the next seven days designed to help the British cross the Somme. At this point 21st AG was still

⁹⁵ JPS study on V1 and V2 threat, 24 Aug 44. RG 331, Entry 26, Box 74.

⁹⁶ Notes from meeting held by MGA, 21st AG, 24 Aug 44. RG 331, Entry 34, Box 23.

relatively conservative when it came to projecting their rate of advance, not realizing how decisively the German Army had been defeated in Normandy.

When the Allied vanguard crossed the Seine it triggered Gale to take a recommendation to Smith and Eisenhower on 26 August to stop attacking rolling stock and rail maintenance facilities across France.⁹⁷ Only a few days into the operation on the east side the river, the Americans were already struggling to keep their lead divisions moving, and Whipple had made it abundantly clear that things would only get worse until trains could pick up some of the slack. Both 1st and 3rd Army were forced to advance in spurts corresponding to the arrival of fuel convoys, which tended to come in every two to three days. These stocks were supplemented by aerial deliveries and the capture of German depots, but Bradley was also forced to pare down the size of his spearheads. Even then, the lead U.S. divisions were immobilized about every fourth day between 26 August and 8 September, providing the Germans a few days to man new defensive lines based on the Albert Canal, Westwall, and Moselle River.

The Allies did not realize it at the time, but their pursuit culminated in each army sector successively, progressing from south to north, throughout September. On 5 September Patton discovered that operating beyond the Moselle would require a deliberate attack to unhinge the defenses at Nancy and Metz. On 11 September Hodges paused along the Westwall near Aachen to restore his supply situation, and by 24 September it was obvious that the British 2nd Army would fall short of its Market Garden objectives. In each case Allied commanders believed they could restore mobility after a short pause to bring up left-behind troops, artillery, and ammunition, but they misjudged the severity of challenges faced by their logisticians, and the recuperative powers of the Germans. Throughout the month Eisenhower, Bradley, Lee, and their

⁹⁷ CAO meeting notes, 21 Aug 44.

subordinates were slightly out of touch with the new reality at the front, preserving a bit too much optimism that they could get the Germans on the run again before winter weather set in.

By early September the British faced the same logistical challenges as their U.S. partners but took more effective measures to manage the crisis until they could shorten the line of communications, bring in more transportation assets, or a combination of the two. On 2 September the CAO meeting included a discussion on how the extended line of communications was affecting 21st AG. At the end of August, the British had decided to cut the daily discharge rates in Normandy by half, going down to 6,500 tons a day so they could redirect trucks from port clearance to long-haul support for the advance. Because this reduced tonnage could not cover daily requirements, 21st AG was eating into their reserves, and these measures could only be sustained for about two weeks. Air transport could not pick up any significant portion of the load being carried by motor transport because the C47s were tied down preparing for Operation Linnet (a drop around Tournai scheduled for 2/3 September that was cancelled later that day). SHAEF decided the best short-term solution was to transfer rolling stock from U.S. to British control to supplement the work being done by the British GT companies, which would eventually allow the British to restore their daily discharge rate back up to about 14,000 tons.

By this point the Allies were largely flying by the seat of their pants when it came to finding ways to sustain the eastward advance. The day after Gale had met with MG Graham at 21st AG, Whipple wrote a note to Crawford and Gale admitting that all of the administrative plans the Allies had developed to date were largely obsolete.⁹⁸ Whipple noted that the armies were executing operations that logistics planners had believed were impossible and that the only functional ports were in Normandy, although Marseille and a Channel port or two would

⁹⁸ Memo, Whipple to Crawford and Gale, 3 Sep 44. RG 331, Entry 26, Box 75.

probably be available in the next few weeks. In order to keep 12th AG rolling, Whipple recommended transferring control over one of the Seine ports to COMZ and arranging a massive air lift to support to Patton. “With 2,000 tons of air lift,” he said, “General Patton may be across the Rhine in a week. Without it he must sit still while German troops organize the Rhine for defense.”⁹⁹ Acknowledging the interest at SHAEF to use the 1st Airborne Army in a major operation rather than dedicating the C47s to supporting the advance, Whipple recommended Rotterdam as the best objective from a logistical perspective.¹⁰⁰

At this stage there was still a fundamental disagreement between two groups within the Allied camp about what could realistically be accomplished on the ground. Montgomery continued to insist that the advance could only achieve operational-level objectives if Eisenhower prioritized one of his two army groups. On 4 September SHAEF sent a telegram to all subordinate commands that illustrated the fundamental difference in the approach favored by Montgomery and the logisticians in contrast to the approach favored by Eisenhower and his U.S. commanders. The message directed a simultaneous advance by both army groups in order to destroy as many retreating German formations as they could catch.¹⁰¹ Eisenhower’s directive of 4 September directed his two subordinates to orient on Antwerp, the Ruhr, and Frankfurt, but these geographical objectives were incidental to the destruction of German forces. Surprised by the ease with which the Allies’ divisions had moved from Normandy to the western frontier of Germany, Eisenhower refused to listen to warnings from his logisticians and Montgomery that SHAEF had to focus its efforts or risk culminating short of the Westwall, much less the Rhine.

⁹⁹ Ibid.

¹⁰⁰ Montgomery would overrun Antwerp the day after Whipple wrote this note.

¹⁰¹ Cable, SHAEF to subordinate commands, 4 Sep 44. RG 331, Entry 23, Box 52.

In the middle of an intensive dialogue among Eisenhower, Bradley, and Montgomery during the first week of September about the best way to accomplish their immediate goals, the staff at SHAEF continued to warn their superiors that the only hope of sustaining the offensive was to mass efforts in one zone. In the short assessment “Crossing the Siegfried Line and the Rhine” published by the SHAEF logistics plans section on 6 September, Whipple suggested that the best line of advance was to strike north of the Ardennes with two armies supported by 500 C47s. Another 300 British planes would drop one airborne brigade to support the operation. The best target for this strike was the approaches to Antwerp or Rotterdam, which had to be opened soon to ease the supply crisis developing in 12th AG. It might be possible to reach the Rhine with a focused thrust, but maintaining that force would be extremely risky. It seems likely that Crawford, Bull, and Gale read the assessment, or at least received a briefing on its high points, but Eisenhower, Bradley, Hodges, and Patton had too many issues competing for their attention to really consider the implications of the recommendations coming from their staffs. These men also had received mixed messages from Lee about the implications of significant fuel and ammunition shortages and how they might or might not slow the advance of 1st and 3rd Army in the coming weeks. The delay required for more accurate and balanced information to reach and influence U.S. leaders at the highest levels resulted in a situation in which Montgomery was trying to force Eisenhower to make tough decisions with no support from the logisticians at SHAEF and COMZ.

Brest and the Brittany Peninsula

It is helpful to go back and examine Allied decisions about the best way to tackle Brittany in one continuous sweep. Examining the issue in detail is useful for two reasons. First, the

historical verdict on the campaign remains in dispute 70 years later, suggesting there is room for further debate. Second, the decisions made by the Allies during the campaign offer a perfect study of how the priorities of combat commanders frequently come into conflict with those of logisticians. Third, it allows us to examine how SHAEF and its subordinates communicated with one another and attempted to resolve disagreement, as well as why it was so difficult to make fully-informed decisions during an ongoing operation.

At the end of July, SHAEF and COMZ still thought there were about half a dozen important military objectives that justified the commitment of troops to clearing Brittany. Around mid-July logisticians had given up on Chastity, the project to build a massive port in Quiberon Bay, and were discussing the merit of various alternatives. By the end of the month a consensus had begun to emerge that either Cancale or Brest justified the effort it would take to develop either location into a first-rate port.¹⁰² Cancale was an undeveloped bay that shared the advantages of Quiberon, while having the added advantage that the capture of Brest was not a precondition of starting Cancale's development. Brest had the most potential, but was guaranteed to have a large German garrison that would probably wreck most of the facilities before they surrendered the city. A few minor ports might be pressed into action sooner, but their small discharge capacity made it counterproductive to invest the resources necessary to restore and run the facilities. Still, if Granville, Saint-Malo, or Lorient fell into Allied hands quickly and in relatively good shape, they might be able to handle a few thousand tons a day until better ports were available. In early August these seemed to be the only realistic options the Allies had for getting a few more ports opened within the next four to six weeks.

¹⁰² Ruppenthal, Vol. I, 471-474.

The value of any port in Brittany was directly linked to two factors: the Allied concept of how to expand the lodgment in Normandy, and the long-term plan to move men and supplies from the United States to the continent. It is fair to say that the slow progression out of the bocage followed by the rapid advance to Dreux and Chartres and then on to the Seine completely invalidated the methodical plan to clear the Brittany Peninsula, build up depots at its base, and then advance on Paris.¹⁰³ After these developments, the value of a major Breton port was its proximity to the United States. The U.S. Army hoped it might begin unloading men and material directly in France starting in October, thus eliminating the need to first route everything through the U.K. This meant that SHAEF needed well-developed ports that could process tens of thousands of tons of heavy crated material on a daily basis at about the same time that bad weather and the withdrawal of coastal and assault shipping reduced the effectiveness of over-the-beach discharge in Normandy. Furthermore, these supplies would be next to useless without rail lines and rolling stock to transfer the material eastward. Whipple reexamined the entire problem at the end of July and validated his prior conclusions that SHAEF could not afford to wait on replacement ports along the English Channel.¹⁰⁴ The anticipated gap in time between securing an appropriate site in Brittany and capturing adequate ports between the mouth of the Seine and the Netherlands made the Allies look for something to carry them through the period when discharging over the beaches would no longer be viable. If this was not accomplished, the Allies

¹⁰³ The developments emerged gradually. It was not until mid-August that the Allies realized they had already inadvertently covered half the distance to Paris and about a week later destroyed all the German formations capable of offering any serious resistance during the second leg of the journey. Because the short-term value of Brittany evaporated precisely while the campaign to clear the peninsula was occurring, it was difficult to maintain an objective view of relative value of those objectives, and the timeline of when they were important.

¹⁰⁴ Staff Study 12, Part II, *Delay in Capture of Brittany and Seine Ports*, 24 Jul 44, SHAEF G-4, in Ruppenthal, 472. Whipple's study contained a lot of independent variables that might result in a more optimistic outcome if SHAEF and COMZ focused on improving them, but the bottom line was that the best estimates from SHAEF plans indicated that the Allies desperately needed another working port by October and that Brittany offered the best choices.

would begin to suffer a significant aggregate reduction in discharge capacity starting in October. The operational impact of this reduction in discharge rates would be the need to delay the arrival of six U.S. divisions on the continent between October and December. SHAEF desperately needed to expand their port discharge capability by early October, driven by the need to reduce the amount of transit time for U.S. cargo ships and transfer port operations to all-weather locations. It was an important requirement, yet not an immediately pressing one.¹⁰⁵

This provides the relevant background for any examination of Allied decision-making associated with Brittany during the first week of August. In keeping with the plans developed before the breakout after Cobra, Bradley planned to push two and then three corps of Patton's 3rd Army into Brittany between 1 and 3 August. Patton's mission was to destroy the four German divisions on the peninsula and capture two minor ports, two bays that might be turned into major ports, and Brest. But on 2 August Bradley came under intense pressure from Eisenhower and Montgomery to either abandon Brittany altogether or else to use only one corps to clear the peninsula while the bulk of 3rd Army was used to reach Le Mans and cut off the two German armies arrayed along the base of the Cotentin.¹⁰⁶ Bradley did not realize it at the time, but similar pressure was bubbling up out of VIII Corps and the two armored divisions that formed its vanguard, consisting of 4th AD commanded by MG Wood, and 6th AD commanded by MG Grow. After working through a bit of confusion that emerged between 2 and 4 August, Patton and Bradley managed to simultaneously accomplish their objectives in Brittany and at Le Mans. XV Corps captured Le Mans on 8 August, Saint-Malo and Lorient were both isolated by 5

¹⁰⁵ In hindsight, the Allies discovered they could keep beach landings going longer than first anticipated and that they could increase the capacity at several minor ports. More ships were diverted to Marseilles, and medium sized ports along the English Channel proved to be useful until Antwerp was opened at the end of November. Prudence demanded a major port in Brittany; experience eventually demonstrated this was not necessary.

¹⁰⁶ Weigley, 175.

August, and Brest was partially blockaded by late on the 6th; Brest was completely invested by mid-day on 9 August.¹⁰⁷ The commander of the first U.S. division to reach Brest, MG Grow, decided on 8 August that German defenses were too strong for an armored division to overrun and decided to await the arrival of reinforcements. Early on 9 August the German 2nd Parachute Division managed to slip past his cordon, increasing the size of the garrison to 38,000 men formed around a core of two understrength infantry divisions. Probably half of these men were not ground combat troops but service personnel from the German Air Force, Navy, and Army.

There is merit to the claim that 12th AG was hampered by delay and confusion between 2 and 6 August, with Bradley and Patton issuing conflicting orders and division commanders exhibiting a bit too much initiative. If Wood, Grow, and Middleton had followed (some) orders, ignored others, and driven relentlessly to isolate their many objectives on the peninsula, VIII Corps might have isolated Brest a few days sooner than 9 August and thus prevented 2nd Parachute Division's retreat into the city.¹⁰⁸ This probably would have accelerated Middleton's first major assault against the city by a couple of weeks, although it is hard to speculate if he would have received the air support, transportation resources, and artillery ammunition he wanted at the height of the battle around Falaise and its immediate aftermath. The commitment of one or two additional mobile divisions in Brittany in early August would also have helped speed up Middleton's arrival outside Brest. Patton could have invested Rennes, Nantes, and the four minor ports and bays along the north and south coast while simultaneously pushing two or

¹⁰⁷ Weigley, 185. Grow's 6th Armor Division destroyed the German 266th Division on 8 and 9 August as it attempted to retreat into the defenses around Brest. The 2nd Parachute Division managed to avoid the Americans and join the garrison on 9 August.

¹⁰⁸ Of course, it was not so simple. VIII demonstrated initiative during the first days of the campaign that slowed the advance on Brest, but it followed instructions from Bradley on 3 August that delayed the advance for 24 hours. Middleton was put in the impossible position of needing to guess which orders to ignore and which orders to follow in order to win the race to Brest in front of the retreating Germans.

three divisions to isolate and then storm Brest. But in order to achieve this concentration of forces in Brittany, XV corps would have been diverted from Le Mans, delaying the encirclement of the German 7th Army and Panzer Group West. Committing more of 3rd Army to Brittany also would have forced Bradley to make some hard choices about how to hold the Avranches-Mortain corridor. On 2 August the Allies had intercepted a message from Hitler directing OB West to use four or five panzer divisions to retake Avranches and cut 3rd Army off from its supplies.¹⁰⁹

In hindsight, SHAEF had been presented with three simultaneous opportunities, and Bradley and Patton managed to accomplish all three. The Avranches-Mortain gap was held continuously for the first week of August by two to three divisions, providing just enough strength to stop a large German counterattack in the region that started on 7 August. XV Corps reached Mayenne and Le Mans with three divisions by 8 August, cutting the supply lines and southern line of retreat of the German 7th Army and Panzer Group West, opening up the possibility of a major encirclement around Argentan. Finally, VIII Corps had isolated or captured every port, bay, and major city in Brittany by 12 August, preventing German escape and setting conditions for the Allies to seize any objective they considered critical. Bradley could have isolated Brest a few days sooner and perhaps even captured the city up to month before its final capitulation on 19 September, but at what cost to the overall ground campaign? And would it have been worth it? Weigley thinks Patton and Bradley should have weighted their priority in the opposite direction, swinging 4th and 6th Armored Divisions east after reaching Rennes, not west, allowing those two divisions to participate in and quicken the encirclement of

¹⁰⁹ Weigley, 183. Bennett, *ULTRA in the West: The Normandy Campaign 1944-45* (London: Hutchinson and Co., 1979), 109-116. Bradley knew of Hitler's orders to prepare a counterattack against Avranches on 2 August; he knew it would take a few days to assemble the force needed for this attack.

the two German armies defending Normandy.¹¹⁰ In reality, Bradley provided a perfect example of how to match resources to objectives while balancing risk, securing two key objectives while ensuring he did not get a nasty surprise from the Germans at Avranches in the process. The irony here is that Bradley was rewarded for simultaneously pursuing three goals in early August while Eisenhower would eventually be criticized for trying to do exactly the same thing a month later. The difference was that Bradley scaled his goals to match his and the enemy's forces, keeping within the realities presented by the supply situation. Most importantly, he was lucky, and he was lucky because he did not bet too much against the odds.

Ruppenthal and Crosswell disagreed with Bradley's balanced approach and with Weigley's preference to prioritize the thrust towards Le Mans and Chartres. They argued that the Allies should have stuck to the original plan and committed two full corps into Brittany, linking the survival of the Brest garrison until 19 September to a shortage of U.S. troops during the early stages of the campaign.¹¹¹ The full-blooded commitment of VIII Corps to Brittany on 2 August, reinforced by one or two mobile divisions from another corps, may very well have resulted in the capitulation of Brest coming early, thus with less damage to the port facilities. But even if the city had fallen in mid-August and started receiving ships in mid-September, the distribution problem that dominated Allied logistical difficulties into mid-October would have still remained. Once the Allies gave up on the idea of a pause along the Seine, any port in Brittany was only important as a replacement in moving the tonnage landed over beaches in Normandy and for its proximity to the United States. According to the original plans, as long as

¹¹⁰ Weigley, 186. Weigley is dismissive of the port capacity eventually developed in Brittany, and he completely ignores the logistical side of the debate that was occurring while Bradley was waging this campaign. With the benefit of perfect hindsight, he ignores the logic of why a set of intermediate ports were important to SHAEF in early August.

¹¹¹ Crosswell, 708. Ruppenthal, Vol. II, 7.

those additional 20,000-25,000 tons were available in the month of October, the Allies would be fine. Even then, the value of such a port was also linked to the rail capacity to send on the material landed there off to the east. Until sufficient rolling stock, engines, and coal were there to move the combined capacity of Cherbourg and Brest (something in the neighborhood of 50,000 tons) at the same time, the only advantage of the Breton port was to unload ships onto the continent faster. In the second half of October, the total Allied rail capacity equaled about 55,000 tons; under half of this capacity was committed to moving supplies from the ports to Paris, with the other half dedicated to deliveries to army dumps.

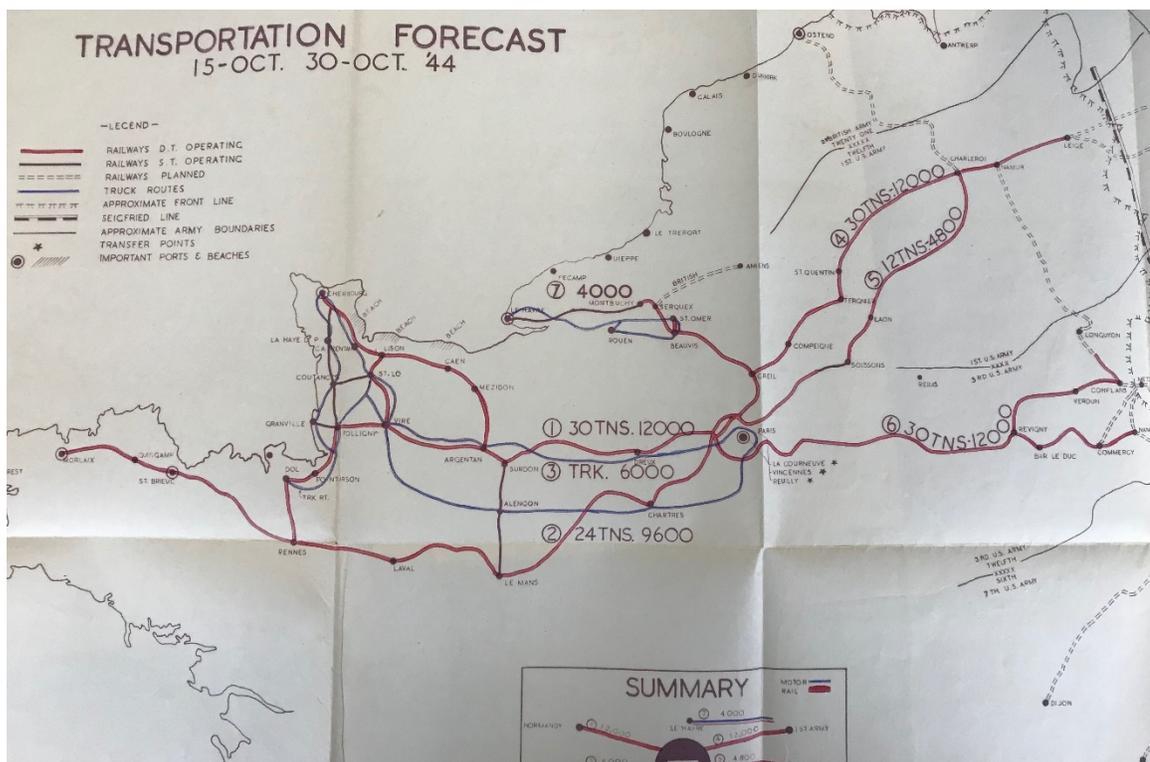


Figure 5.2: ETOUSA rail forecast, second half of October 1944

Both authors forget or ignore that during the time they claim Brest would have made a major difference in the Allied supply situation, Cherbourg could not forward its daily discharge

tonnage, much less begin to clear out the depots that had been abandoned in Normandy.¹¹²

Throughout September and October, ETOUSA expended considerable energy trying to increase daily download figures from 10,000 tons in September to 15,600 tons near the end of November.¹¹³ Another port, further from the front line and in direct competition with Cherbourg over dock labor, trucks, engineers, the expansion of rail lines, and rolling stock would have slowed the development of the best port the Allies had available. It is hard to imagine how Brest would have helped the Allies after 25 August but not impossible to see how it might have made things initially worse.

SHAEF began to appreciate this logic on their own beginning in the second half of August. COMZ would have welcomed the addition of Brest in the first half of the month, when the idea of a short pause along the Seine was considered realistic. But between 16 and 25 August it became clear that the pursuit would continue across that river, and logisticians came around to just waiting for some of the Seine ports to open up.¹¹⁴ To bridge the gap, the Allies would expand the minor ports already under their control, to include Saint-Malo, Granville, and Cancale in Brittany. Unfortunately for the health of the partnership between the logisticians and maneuver staff officers at SHAEF, COMZ, and 12th AG, these decisions emerged at precisely the same time when VIII Corps was demanding significant logistical support in order to begin the reduction of Brest. The first loud demands for large quantities of artillery ammunition emerged

¹¹² Ruppenthal, Vol. II, 83-88. In August trains cleared 38% of the cargo at Cherbourg, with trucks handling the other 62%. COL Sibley, the port commander, was relieved on 29 September for failing to improve the situation. Cherbourg needed more men, trucks, rail lines, and rolling stock in September and October in order to reach a peak efficiency of 14,600 tons a day in early November, of which about 90% was then forwarded out of Normandy. Another large port west of the Seine would have only competed for the resources needed to improve the efficiency of Cherbourg and then move the downloaded cargo off to the east. Running Cherbourg more efficiently proved to be much more important to the Allied supply situation than if Brest had come on line a month or two sooner.

¹¹³ Ruppenthal, Vol. II, 87, 88, 85. The COMZ goal for the port by the end of October, published on 3 October, was 24,000 tons.

¹¹⁴ Ruppenthal, Vol. II, 47.

from VIII Corps on 23 August, requests that Stratton promised to deliver. But over the next week, COMZ failed to deliver what Stratton had so quickly promised to provide. Ruppenthal speculates that the lackluster support provided VIII Corps in the last week of August was a result of the internal debate within the logistics community about the relative value of Brest.¹¹⁵ Less nefarious explanations were just as easy to find; COMZ and the Brittany Base Section were inexperienced and there were a number of vitally important issues in play simultaneously in late August and early September, such as moving the SHAEF and COMZ command posts.

In early September doubt was beginning to emerge about the need for Brest, but there was no consensus among the logisticians, and they did not formally share their emerging concerns with their maneuver counterparts until mid-September. Between 3 and 7 September Whipple recommended that the ports in south Brittany be abandoned, and SHAEF decided to not use Nantes, St. Nazaire, Lorient, and Quiberon Bay.¹¹⁶ As late as 4 September the JPS still considered Brest essential, although it was willing to concede that the other Breton ports were unimportant as long as Le Havre was allocated to the U.S. Army.¹¹⁷ Lee finally offered a compressive reassessment of the entire port situation on 14 September, advising Eisenhower to give up on Brest, to use Le Havre as a stop-gap, and to rely on Antwerp, Rotterdam, and Amsterdam as the best long-term solution.¹¹⁸ A few days later SHAEF concurred on all points other than Brest, which had been captured in the meantime and would be rehabilitated to receive troops – and only troops – in the future.¹¹⁹ The logisticians had come around to what in

¹¹⁵ Ruppenthal, Vol. I, 535 and note 179.

¹¹⁶ Ruppenthal, Vol. II, 50.

¹¹⁷ JPS appreciation of Brittany ports, 4 Sep 44. RG 331, Entry 26, Box 74.

¹¹⁸ Ruppenthal, Vol. II, 50-51.

¹¹⁹ *Ibid*, 51, note 16.

hindsight made the best sense, but it came too slowly to help SHAEF conserve the resources they poured into VIII Corps during the second week of September.

Between 23 August and 6 September COMZ struggled mightily to provide the support directed by SHAEF and promised by Lee and Stratton, especially the delivery of large quantities of artillery ammunition.¹²⁰ Because of this friction, Bull dispatched three officers from SHAEF and 12th Army Group to Brest between 3 and 6 September to help clear up the issue. SHAEF had gotten deeply involved in fixing the supply problems of VIII Corps at least in part because of the convoluted chain of command in Brittany.¹²¹ For about two weeks VIII was authorized to work directly with COMZ to coordinate their supplies, bypassing 3rd Army and 12th Army Group. When ETOUSA/COMZ dropped the ball in August, SHAEF felt compelled to get involved. LTC Ballentine, a staff officer at SHAEF G-3, had visited COMZ headquarters on 3 September and discovered that Stratton had issued orders for release of ammunition and commitment of transportation that were never executed by Ross' OCOT, Cherbourg Base, or Brittany Base Section.¹²² After arriving at VIII Corps headquarters, it became apparent to LTCs Clark and Ballentine that the orders issued by Stratton back in Paris were not producing results at Brest. COMZ orders to move ammunition by truck had been countermanded by the ADSEC and Motor Transport Brigade, LSTs were off their designated schedules and arriving underloaded, and Stratton had issued dispatch orders for ammunition that was not available in France.¹²³ Clark and Ballentine's persistence eventually paid off; they got accurate information about the

¹²⁰ See chapter six for the problems with COMZ communication with and support to VIII Corps at the end of August and first week of September 1944.

¹²¹ VIII answered to 3rd Army, but on 23 August Bradley authorized Middleton to work directly with COMZ and the Brittany Base Section, relieving 3rd Army of any supply responsibilities in Brittany. Despite these arrangements, 12th AG continued to play a direct role in coordinating support through COMZ. SHAEF was drawn into the situation as the superior headquarters for ETOUSA/COMZ. On 5 September VIII Corps was assigned to 9th Army.

¹²² Ruppenthal, Vol. I, 534 and note 169.

¹²³ Ruppenthal, Vol. I, 532-534.

problems they had discovered back to Lord and Stratton (and their superiors at SHAEF) on 6 September, and finally the logistics machine began to deliver the ammunition it had been promising since 25 August. Between 7 and 12 September ammunition poured into the VIII Corps Ammunition Storage Point (ASP), reaching 13,000 tons and three units of fire by mid-month compared to Middleton's initial request for 8,000 tons. When Brest surrendered on 19 September, the corps had 25,000 tons of ammunition in reserve. But it took a lot of ships, trains, and trucks between 6 and 18 September to move these supplies, resources not available to support Patton, Hodges, and Montgomery's buildup for Market Garden.

SHAEF had demonstrated that it could motivate COMZ and solve logistics problems better than Lord and Stratton, but at what cost and for what reward? Regardless how quickly COMZ filled up the VIII Corps ASP, it was obvious by early September that Brest could not be restored as a functional port anytime soon. Based on the damage discovered at Cherbourg, it was reasonable to assume that it would take four to six weeks to repair the port at Brest. SHAEF had continued to press for the capture of Brest as late as 4 September, but with a reduced sense of urgency. What was not discussed in any staff paper or recorded from any senior-level meeting was any discussion about the relative merit of Brest in comparison to Metz-Nancy, Aachen, or Market-Garden. Eisenhower continued to emphasize Brest and Antwerp as his top two objectives in the first half of September, even if his actions did not always correspond to those priorities. Looking back at the cost in casualties, scarce artillery ammunition, transportation assets, and airpower used to capture Brest, one wonders if Gale and Lee might have done more to convince Eisenhower and Bradley to hold off on capturing the port.¹²⁴ Asked about Bradley's

¹²⁴ Russell F. Weigley, *Eisenhower's Lieutenants: The Campaigns of France and Germany, 1944-1945* (Bloomington: Indiana University Press, 1981), 285.

decision to storm Brest, Patton said that Bradley had admitted to being motivated by pure stubbornness. When Blumenson followed up on this issue in a later interview, Bradley agreed, adding: “Anytime we put our hand to do a job we must finish it.”¹²⁵ Bradley, after the war, tried to justify the operation by claiming he did not think the German commander in Brest would take being bottled up without causing trouble.¹²⁶ General Hermann-Bernhard Ramcke was not going anywhere in mid-September with what amounted to one limited-mobility infantry division -- Bradley and Patton could have waited a few weeks to demonstrate the resolve of the U.S. Army when SHAEF was a little less preoccupied with sustaining the pursuit.

The entire episode illustrated how hard it was to let go of an idea once it had taken root, the single-minded determination of maneuver commanders to accomplish an assigned mission, and the distorting effect on higher priorities this fixation might create. Rather than stepping back, taking a deep breath, and seeing the bigger picture, Crawford, Bull, and Gale allowed SHAEF to get sucked into a costly distraction at exactly the time where every plane, train, and truck mattered. In their defense, these senior officers at SHAEF were encouraged at least in part by the joint planners who continued to emphasize the importance of Brest as late as 4 September and by the lack of a timely and compelling argument from Lee and COMZ. So much was going on simultaneously in these three critical weeks that it was unrealistic to expect surgically precise decision-making. SHAEF was in the process of moving from London into what amounted to a communications black hole at Granville. COMZ spent the first two weeks of September closing up three headquarters and reassembling in Paris. Perfectly good reasons to quickly overrun a port or three in Brittany in early August had lost their luster twenty days later and then pointed to

¹²⁵ Martin Blumenson, *The Patton Papers* (2 vols, Boston: Houghton Mifflin, 1972-1974), II, 532 in Weigley, 285.

¹²⁶ Bradley’s post-war excuse is from *A Soldier’s Story* (New York: Holt, 1951), 367, in Weigley, 285.

outright stubbornness twenty days after that. It is easy to see this in hindsight, but it was virtually impossible for the Allies to detect, much less build consensus on, while living through the experience in real time. Things might have turned out otherwise if ETOUSA had been organized differently, if Eisenhower had not been not distracted by his arguments with Montgomery, or if logistical support to the pursuit had gone a bit more smoothly, but each of these factors got in the way of clear thinking about Brest.

Hitting the Westwall

By the end of the first week of September Montgomery realized that he was running out of time to match logistical support and adequate strength at the front to accomplish meaningful objectives before the Germans recovered their balance. On 7 September Montgomery made a second attempt to get Eisenhower to support one strong thrust designed to pierce the Rhine. His message on 4 September had missed the mark, forcing Montgomery to take a new approach in trying to convince Eisenhower and his senior advisors at SHAEF that he was right. The British Field Marshal explained:

My maintenance is stretched to the limit. First instalment of 18 locomotives only just released to me and the balance still seems uncertain. I require an air lift of 1,000 tons a day at Douai or Brussels and in last two days have had only 750 tons total. My transport is based on operation 150 miles from my ports and at present I am over 300 miles from Bayeux. In order to save transport I have cut down my intake into France to 6000 tons a day which is half what I consume and I cannot go on for long like this.... As soon as I have a Pas de Calais port working I would then require about 2500 additional 3-ton lorries plus an assured air lift averaging minimum 1000 tons a day to enable me to get to the Ruhr and finally Berlin...a reallocation of our present resources of every description [that is of both fighting strength and supplies] would be adequate to get one thrust to Berlin.¹²⁷

¹²⁷ Ellis, *Victory in the West*, Vol. 2, 16.

Perhaps the realities of logistics had started to sink in a bit with Eisenhower after the latest round of discussions with Montgomery and Bradley, because in a new directive on 9 September SHAEF attempted to outline the relative priority and sequencing of the various Allied objectives. Eisenhower made it crystal clear that his two immediate priorities were Antwerp and Brest; obviously the concerns held by logisticians about keeping the armies supplied at the end of a 400-mile line of communications had registered at the highest levels.¹²⁸ Eisenhower went on to say that, once the operations designed to capture Antwerp and Brest were properly resourced, then SHAEF could consider the best way of cutting off the Ruhr and Saar. This might occur while the Allies were capturing the two large ports, or after they were secure. Eisenhower also confirmed that he intended to commit the airborne army in the Arnhem area to help 21st AG get across the Rhine before the end of the month. The directive published on 9 September acknowledged that Allied logistical challenges were mounting, but it implied that increased rail capacity and the opening of ports at the mouth of the Seine and along the Pas de Calais would soon clear up these problems. Although Eisenhower seemed to be coming around to the idea that SHAEF could not afford to pursue all its objectives simultaneously, the commander seemed comfortable pursuing three major objectives simultaneously by mid-September.¹²⁹

Eisenhower's clarity of thought was not aided by the steady stream of overoptimistic information fed to him and his subordinates by Lee. At the 9 September CAO meeting Lee reported that the overall motor transport situation was improving and that he had recently decided to authorize trucks to run with white lights at night on the Red Ball Express.¹³⁰

¹²⁸ Cable, SHAEF to subordinate commands, 9 Sep 44. RG 331, Entry 23, Box 52.

¹²⁹ Eisenhower approved Market Garden on 10 September. Montgomery convinced Eisenhower that 1st Canadian Army would continue to clear ports, to include Antwerp, along the Channel while 2nd Army got a bridgehead over the Rhine.

¹³⁰ CAO meeting notes, 9 Sep 44. RG 331, Entry 34, Box 24.

Whatever advantages this might provide, there was no way COMZ was going to dig itself out of its transportation deficit solely by driving a little faster at night. Every time Lee told the leaders at SHAEF that the supply situation was close to working itself out while not demanding that they make hard choices and ruthlessly enforce priorities, he made it that much more likely that the pursuit was going to stall out short of its operationally significant objectives.

By this stage the logisticians at SHAEF had a better grasp on reality than Lee. On 10 September BG Napier sent an update to his boss, MG Crawford, outlining the current situation with ports. Getting Rotterdam or Antwerp running had become absolutely critical for the Allied logistics picture, the most important objectives possible based on the requirements for transportation in the theater.¹³¹ Napier was comfortable that Le Havre could be used by the Americans without creating a traffic control nightmare in the rear areas of 21st AG, but the eventual capture of Brest was not going to provide any immediate relief to COMZ or help with the supply situation at the front. The primary advantage that control of the port would provide was the possibility of reducing the backlog of ships waiting to be unloaded and of providing a more direct destination for the troop convoys projected to arrive from the United States beginning in October. In both cases, transportation shortages on the continent would prevent the movement of men or material to the front until major improvements were made to the French rail service. Napier had discussed all these issues with Gale and Admiral Ramsay before writing this summary, and both men had agreed with his assessment of the overall situation with transportation.

As a result of his appreciation of the problems plaguing the theater distribution system, Gale came to the conclusion between 4 and 12 September that Montgomery's plan for the next

¹³¹ Memo, Napier to Crawford and Bull, 10 Sep 44. RG 331, Entry 26, Box 75.

stage of the campaign was irresponsible from a logistical perspective.¹³² On 8 September Gale recorded in his diary his reaction to the telegram sent by Montgomery on 7 September, “demanding all sorts of resources and providing a very ill thought out answer to a telegram the SAC had sent to him on the subject of a purely Montgomery advance straight to Berlin.”¹³³ On 10 September Gale described Montgomery’s “proposal to rush to Berlin at the expense of the immobilization of the rest of the Allied Armies...a fantastic proposal viewed from any angle and was highly unsound logistically.”¹³⁴ At the conference held that day, all of the senior leaders involved agreed that they needed to provide a better logistical support to Hodge’s 1st Army so that it could protect Montgomery’s right flank and draw off German forces. Some historians miss the point that Montgomery was fighting for greater resources for the northern thrust, which included 1st Army, and not just 21st Army Group. In order to encircle the Ruhr from both the north and south, Montgomery knew he needed U.S. help. The second major topic of discussion at the 10 September meeting was trying to figure how much further 21st Army Group could advance with their current logistical situation; Montgomery felt he had already culminated while Graham believed they could reach the Rhine. At some point during the meeting Gale tried to convince Montgomery to pay more attention to opening up Antwerp, but the British commander insisted the port could wait a few weeks and that reaching the Rhine was more important in the short term. On the flight back to Granville Gale used the opportunity to share with Eisenhower “what I thought about the Communications Zone and the precarious logistical situation in which we found ourselves.”¹³⁵ By now Gale knew that COMZ was struggling mightily, and

¹³² There are strong indicators that Ramsay had convinced Gale to resist Montgomery’s scheme to reach the Rhine at the expense of clearing the approaches to Antwerp. The two men met on 9 September for several hours, but Gale committed no notes to paper about what was discussed.

¹³³ Gale’s War Diary, 8 Sep 44.

¹³⁴ Gale’s War Diary, 10 Sep 44.

¹³⁵ Gale’s War Diary, 10 Sep 44.

Montgomery seemed determined to avoid going all out for the one objective that might save the day. Gale summed up his thoughts about the current direction of the campaign in his last diary entry for 10 September: “His [Eisenhower’s] strategy is sound, his plans are well laid, but now that Montgomery is no longer the Ground Force Commander it is perfectly clear to me that he is going to play for his own hand regardless of the wider issues involved. Bedell Smith is very worried about it all.”

SHAEF continued to receive signs that it was emphasizing the correct objectives and had accurately appraised the logistics picture through mid-month. On 12 September SHAEF got confirmation that the British chiefs agreed with Eisenhower’s directive of 9 September directing the main effort to run north of the Ardennes and reiterating the importance of taking Antwerp or Rotterdam before bad weather shut down discharge over the beaches in Normandy. On 14 September the chief of the plans section, BG K.G. McLean, passed along an update on the rail situation in France. Working closely with BG Ravenhill from G-4, McLean pointed out that rail transportation was being held back by a shortage of coal and rolling stock by this point rather than by problems with bridge or line repair. In the short term, shortages meant that SHAEF could only use trains to fix the logistical problems of one army group, not both. Based on all these messages flowing around SHAEF between 10 and 14 September, the command was well informed as to the reality of the logistics situation and as to what was required to make any drastic improvements. But these limitations, and the concerns they produced among the logisticians, did not seem to penetrate to the level of the U.S. senior commanders, at least to an extent sufficient to force Eisenhower to significantly reduce the number of simultaneous objectives he was trying to accomplish.

This was odd, because Eisenhower had first mentioned his logistical headaches to Marshall in an update provided on 4 September, noting that his two major concerns at the time centered on the resistance offered by the German garrison at Brest and fuel shortages that were slowing the Allied pursuit.¹³⁶ Five days later he passed a similar message to the Combined Chiefs of Staff, emphasizing his efforts to restore rail service between Cherbourg and Paris and to secure a port east of the Seine as the steps required to ease the strain.¹³⁷ But on 12 September, Bradley and Lee managed to convince Eisenhower that the supply situation was not as dire as they had first believed and as Montgomery continued to insist was the case. Facing the possibility of becoming a sideshow after Eisenhower gave precedence to Montgomery on 10 September, Bradley painted a new, rosier assessment of his logistical situation on 12 September. Lee said that he could deliver everything SHAEF had promised for Montgomery with enough tonnage left over to sustain drives by 1st and 3rd Armies.¹³⁸ Excited by this good news from his two subordinates, Eisenhower authorized Bradley to continue his twin offensives.

Eisenhower was further encouraged to make this decision based on a second independent point being made by Gale around the same time. During a meeting on 12 September at Amiens, Smith, Gale, and Lord continued to discuss with Montgomery and Graham ways to better support 21st Army Group. By this stage Montgomery was asking that every ounce of logistical support go to the northern thrust – that Patton be all but immobilized. Gale believed it was impossible to do so, and tried to convince Montgomery and Graham why this was the case.¹³⁹ Gale recorded in his diary that it was a matter of technical detail and the physical limitations of

¹³⁶ Eisenhower to Marshall, cable 1934, 4 Sep 44, from Alfred D. Chandler and Louis Galambos, eds., *The Papers of Dwight David Eisenhower: The War Years, Volume I-IV* (Baltimore: The Johns Hopkins Press, 1970).

¹³⁷ Eisenhower to CCS, cable 1939, 9 Sep 44.

¹³⁸ Bradley to Eisenhower, 12 Sep 44. Pre-Presidential Papers, Box 13.

¹³⁹ Gale's War Diary, 12 Sep 44.

the distribution network. One assumes Gale was referring to the inability of northern roads and rail lines to handle the entire theater's worth of traffic, and the time it would have taken to relocate regulating stations and support facilities from behind 3rd U.S. Army up to 1st U.S. and 2nd British armies. Perhaps Gale was wrong; he was operating off of bad and incomplete information furnished by COMZ and ETOUSA with no reliable way to check their figures. But one suspects Gale had an accurate feel for how long it would take to shift a large portion of the supplies off of the southern lines of communication and deliver them behind 21st Army Group, and that as a general rule, the road and rail network could not presently handle that volume of traffic. It was another strong argument in favor of delivering some quantity of supplies for Patton, and letting the American general try to accomplish as much as he could with whatever made it through.

Between 13 and 15 September Eisenhower seemed to swing back and forth between new hope for his original concept, a reluctant admission that logistics would limit his options in the near future, and, finally, back to optimism that he might deal the Germans a death blow before the Allied advance ran out of steam. On 13 September Eisenhower told his subordinates that the overall logistical situation was improving rapidly; on 14 September he reversed course and admitted to Marshall that the distribution challenge remained "critical" with no drastic improvement on the near horizon. Eisenhower realized that his logistics problems were catching up with him, but that did not stop him from making one more push along the entire front, authorizing Bradley to push on to the Rhine on 15 September.¹⁴⁰ This decision was probably justified in Eisenhower's mind by Lee's promise to increase deliveries to Bradley by an

¹⁴⁰ Eisenhower to subordinate commanders, cable 1946, 13 Sep 44. Eisenhower to Marshall, cable 1953, 14 Sep 44. Eisenhower to Bradley, cable 1956, 15 Sep 44.

additional 2,000 tons a day while still meeting the increased targets established for 21st Army Group. By mid-month Eisenhower was convinced that the Allies could still support three major simultaneous attacks, and that getting a bridgehead over the Rhine at Arnhem was more important than clearing the approaches to Antwerp, at least in the short run. Eisenhower boldly decided to make one final attempt to win through his preferred methods, but this gamble did not pay off.

While wrestling with the decision whether to hold up Bradley, Eisenhower also published a document designed to provide a longer-term view of the fall campaign, which was published on 16 September. Eisenhower strongly believed that the Allies still had the initiative and that the logistics problems facing the command would soon be overcome. Based upon the assumption that Market Garden would establish a bridgehead over the Rhine and help open up Rotterdam and Antwerp, Eisenhower assumed that the Ruhr and Saar would fall soon after.¹⁴¹ The real purpose of the document published on 16 September was to talk about what would happen after the Allies had secured bridgeheads across the Rhine. The scheme of maneuver outlined in this paper seems completely divorced from logistical realities. Once over the Rhine, SHAEF would dedicate one army group each to take Hamburg, Berlin by way of Leipzig, and Munich. By advancing on all three objectives, Eisenhower hoped to cut off reinforcements from other theaters and prevent the creation of any centers of resistance beyond Berlin. Montgomery's advance on Hamburg would seal off the possibility of German counterattacks from Norway or Denmark. Devers would block any forces that tried to come up from Italy and the Balkans and thus prevent a German retreat into the old Nazi strongholds in Bavaria. Bradley, with both of his

¹⁴¹ Draft commander's directive, 11 Sep 44. RG 331, Entry 23, Box 52. Eisenhower approved the order on 15 September, and it was published on 16 September.

flanks protected by Montgomery and Devers, would head straight to Berlin through Leipzig. Eisenhower's 16 September guidance was a bit strange in its timing, disregard of the current logistical situation, and apparent repudiation of everything Montgomery had tried to impress upon Eisenhower over the last three weeks. Eisenhower projected how SHAEF would conduct the campaign in the spring of 1945, but in September 1944 it read more like fantasy than useful guidance for the staff and subordinate commanders.

One of the most frustrating aspects of the Allied campaign in September and October from SHAEF's point of view was the dissonance between what Eisenhower stated was his most critical preliminary objective and the resources Montgomery applied to accomplishing it. The fact that Montgomery was in no hurry to clear the approaches to Antwerp was common knowledge across SHAEF. A lack of planning or preparation for the operation was repeatedly reported by liaison officers attached to 21st Army Group, mentioned during meetings hosted by 21st AG with SHAEF staff members in attendance, and discussed in assessments and estimates shared between both the maneuver and sustainment communities. On 14 September Montgomery sent a cable to SHAEF outlining his actions in response to Eisenhower's directive of 9 September.¹⁴² Le Havre had recently been cleared of the enemy and would soon be available to receive U.S. ships. Montgomery claimed that 1st Canadian army would soon begin to clear the approaches to Antwerp; this was not true, a fact confirmed by the LNO from SHAEF that was assigned to 21st AG. Montgomery argued that the next logical major objective for 21st AG should be the Ruhr; his advance against this target would uncover Antwerp and Rotterdam, which would then be cleared by the Canadians. Market Garden, due to start sometime in the second half of September, would establish a bridgehead over the Rhine and pull German reserves

¹⁴² Letter, Montgomery to Eisenhower, 14 Sep 44. RG 331, Entry 23, Box 52.

to the north, making it easier for the 1st U.S. Army to penetrate the Westwall and encircle the Ruhr from the south. Once the British and Americans had linked up on the west side of the Rhine near Köln, the next stage of the offensive could begin. Montgomery promised to coordinate closely with Bradley during these operations, and on 10 September Eisenhower endorsed the ten-day delay Market Garden would impose on the advance on Antwerp and Aachen.

Bull was aware of the contradiction between Eisenhower's desire to clear Antwerp and the energy being expended by 21st AG to do so. As a result, SHAEF began to develop a series of operations designed to solve the port problem on their own, pushing these concepts to 21st Army Group for their input. The joint plans section developed an outline for a set of options designed to quickly secure Antwerp or Rotterdam and shared them with the Navy, AEF, G-2, G-3, and G-4 for further study.¹⁴³ Similar to the concepts embodied in Beneficiary and Hands Up, SHAEF developed outlines for various air, sea, and ground operations that might quickly solve their logistics problem. But as had been the case at Saint-Malo and Quiberon Bay, Antwerp and Rotterdam were not vulnerable to small- to moderate-sized airborne and amphibious forces. The ports would have to be opened by a large ground force. On 22 September Bull dispatched an LNO, LTC W.W. Stromberg, to visit First Allied Airborne Army, 21st Army Group, and 1st Canadian Army to get a second opinion on the actions proposed by SHAEF planners, and to extract a status report on progress being made around Antwerp. Stromberg reported that General Simonds, the commander of 1st Canadian Army, was not available for consultation because he was directing operations at Calais and Boulogne. His staff thought that 27 September was the soonest that attacks against Sud Beveland and Walcheren might begin, but 1 October was more

¹⁴³ SHAEF JPS, "Rapid Capture of the Antwerp Area", 18 Sep 44. RG 331, Entry 23, Box 52.

realistic.¹⁴⁴ Leaders at 21st AG were not comfortable beginning a major operation around Antwerp until they had shortened their own supply lines by opening Dieppe, Ostend, and Boulogne and had cleared out enemy forces that might cause problems along the line of communications. This might have been frustrating for SHAEF, but it closely mirrored the U.S. logic for assaulting the garrison at Brest.

By late September it looked as if Antwerp was not going to be opened up anytime soon, and supply shortages continued to hamper Allied operations. At the CAO meeting on 22 and again on 29 September the assembled leaders were forced to acknowledge that shortages of both 5-gallon jerry cans and 55-gallon oil barrels were hamstringing the effort to move bulk fuel forward to the divisions and fighter squadrons. By 6 October fuel was still a major concern, but since the end of Market Garden aerial resupply had begun to make up some of the transportation shortfalls and new trains were being unloaded at Dieppe as well as at Cherbourg and Marseilles. It was hard to project the net balance between added capability (the opening of new ports and arrival of additional transportation assets), rising demands, the coming bad weather, and increased wear on the equipment that had been used relentlessly since late July. Leaders wanted to remain optimistic and believe that they could fix their sustainment problems in time to resume the offensive before winter weather set in.

By late September logistical shortfalls were having an increasing impact in limiting SHAEF's options. Eisenhower had asked his staff to look into what it would take to create a theater strategic reserve larger than just 1st Allied Airborne Army, and on 26 September McLean came back with the recommendation not to do so.¹⁴⁵ Pulling units out of the line would consume

¹⁴⁴ LTC Stromberg, trip report, 22 Sep 44. RG 331, Entry 23, Box 52.

¹⁴⁵ SHAEF JPS assessment on forming a strategic reserve, 26 Sep 44. RG 331, Entry 26, Box 74.

transportation resources that were already in short supply. More importantly, committing that central reserve back into the line would put even more strain on the lines of communication. The same day that SHAEF plans told Eisenhower they did not have the lift resources to employ a theater reserve, 21st Army Group reported that they could not open Antwerp.¹⁴⁶ The hope of accomplishing any significant objectives anytime soon seemed more and more remote a possibility.

The SHAEF joint plans section had not given up yet, but thought the Allies first needed a one month pause to finish clearing the approaches to Antwerp and to bring the Channel ports fully on line.¹⁴⁷ By late October the Allies might be able to support nine corps on the east bank of the Rhine and launch a three-pronged drive to capture Hamburg, Berlin, and Leipzig. Once again, these projections were predicated upon delivering 2,000 tons of supplies by air daily (something the Allies had never accomplished in perfect weather and with a maximum effort), restoring rail service from the ports up to the west bank of the Rhine (supported by sufficient rolling stock and coal), and committing every truck in the theater to supporting the nine corps and their air support. This estimate also assumed that Antwerp would be discharging 27,000 tons of supplies a day by 15 November and that SHAEF could mass 125 truck companies to support 21st AG and 422 for 12th AG. Based on the Allied situation on 26 September when the report was presented to Eisenhower, the plan seemed a bit far-fetched. In their defense, the plans section had probably been working on this product for up to a week before its publication, and they had assumed that Market Garden would achieve its objectives. Once SHAEF reconsidered the situation after the British withdrawal from Arnhem, the headquarters was forced to admit to

¹⁴⁶ SHAEF JPS "Advance of 21st AG on the Ruhr" 26 Sep 44. RG 331, Entry 23, Box 52.

¹⁴⁷ SHAEF JPS "Advance into Germany after Occupation of the Ruhr" 26 Sep 44. RG 331, Entry 23, Box 52.

themselves that the effort to retain the initiative and prevent a solid German line forming along the Westwall had failed. Furthermore, it seemed likely that clearance of the approaches to Antwerp was going to be more difficult than originally assumed. By attempting to do too much all at the same time in September SHAEF had failed to achieve any of its operational goals. The sinking feeling that the war would drag on into 1945 could no longer be ignored.

The Allied Stalemate in the Fall

In a note written to a friend on 6 October, Eisenhower admitted that the Allied offensive had shot its bolt across the entire front, that he would have to fight another major battle to get across the Rhine, and that the war would last into 1945.¹⁴⁸ Eisenhower had probably reached this conclusion as a result of a conference hosted by SHAEF the day before designed to derive a realistic timeline for the opening up of Antwerp. Admiral Ramsay was present and refused to let Montgomery off the hook -- for failing to secure the approaches to the port back in early September, despite Navy warnings to do so, and for failing to put enough energy into the task in the following month. Field Marshal Alan Brooke, the British chief of the imperial general staff, was present at this meeting and was forced to admit that Montgomery had dropped the ball. Brooke noted in his diary: "I feel that Monty's strategy for once is at fault, instead of carrying out the advance on Arnhem he ought to have made certain of Antwerp in the first place."¹⁴⁹

With the benefit of hindsight, it is easy to see that 21st AG had missed their best chance to cut off the Beveland isthmus and prevent German reinforcement when Montgomery ordered 2nd Army to halt and regroup around Antwerp between 4 and 7 September. On the afternoon of the

¹⁴⁸ Eisenhower to Surles, cable 2027, 6 Oct 44.

¹⁴⁹ Barr, 415

4th the British 11th Armoured Division was only fifteen miles away from the Albert Canal; when the advance resumed on the 8th the British ran into hastily deployed Germans occupying the excellent defensive position afforded by the water obstacle.¹⁵⁰ Admiral Ramsay found this development all the more frustrating because he had emphasized the importance of securing the Scheldt estuary to SHAEF and 21st AG on 4 September. Ramsay wanted to accompany Eisenhower and Tedder when they visited Montgomery at his headquarters on 10 September to ensure that Antwerp was given top billing in the near future, but something changed and Ramsay did not travel with the SHAEF delegation.¹⁵¹ As we have seen, as a result of the meeting that day, Eisenhower authorized Montgomery to conduct Market Garden and tacitly approved a lessening of the effort to clear Antwerp.

Once the Canadians captured Boulogne on 22 September and Calais on 1 October, clearing up most of Montgomery's logistical concerns, the Field Marshal was in no hurry to shift his main effort to clearing the Scheldt. When the SHAEF staff pushed Montgomery on the issue of clearing the approaches to Antwerp between 5 and 10 October, he threw the issue back into Smith's and Morgan's faces, explaining that the port was required to supply the Americans but not 21st Army Group.¹⁵² Montgomery had already decided to supply 100% of 2nd Army's needs at the expense of 1st Canadian Army so the former could make one final try to reach Köln.¹⁵³ It

¹⁵⁰ Barr, 414. Gordon and Ramsay, 304.

¹⁵¹ Gordon and Ramsay, 304. These authors cite Ramsay's diary, which is vague as to why the admiral was removed from the trip. Gale noted in his war diary that he had a long meeting with Ramsay on 9 September, but doesn't mention what they discussed.

¹⁵² Gordon and Ramsay, 315-317.

¹⁵³ COL Poole, draft plan for BG Feilden (DQMG 21st AG) to forward to MG Graham (MGA), 30 Sep 44, WO 171/146 Q Plans, National Archives, Kew. At some date between 27 and 30 September COL Poole was directed to fully resource 2nd Army at the expense of 1st Canadian and to postpone any attempt to build up local reserves at the front. The memo produced on 30 September provided his proposed distribution of daily lift capacity based on this new guidance. 2nd Army would get 7,700 tons daily, or 100% of its requirements. Between 24 and 27 September Poole had continued to point out that the army group could not sustain two simultaneous army-level attacks, and on the 24th he had recommended Antwerp as the most important objective.

was not until 16 October that Montgomery finally gave in and made Antwerp his number one priority, only after Brooke, Marshall, Eisenhower, Tedder, Morgan, and Smith all made it clear that they disagreed with any other distractions.

Walcheren and Beveland were cleared by 3 November, and the approaches to the port swept of mines by 26 November. The first oceangoing vessels pulled in at the docks on 28 November, and the port was discharging 23,000 tons a day by mid-December, three months later than what might have been accomplished had 21st AG advanced fifteen miles on 4/5 September. The Allied logisticians had basically been holding their breath and counting on this development to solve the theater transportation crisis since the beginning of September. Antwerp was critical not only because of its proximity to the western border of Germany but also because its massive discharge capacity was needed to offset the loss of the beach unloading sites with the arrival of winter weather. Montgomery had proven to be entirely too cavalier in risking the entire foundation of Allied theater logistics in order to make one more thrust designed to get a bridgehead over the Rhine, penetrate the Westwall, and place the Ruhr at risk from the north.

In the end, all three Allied thrusts designed to restore mobility to the front before the end of the year failed. Montgomery was forced to give up his goals of getting across the Rhine or encircling the Ruhr from the north when he shifted his main effort to 1st Canadian Army on 16 October. Patton spent from early-September to mid-December trying to break through the line of the Moselle and reach the Westwall near Saarbrücken, advancing only 46 miles in three months. In September 3rd Army had been slowed by the combination of too few U.S. forces at the front and a strong local counterattack by Fifth Panzer Army. This renewed aggressiveness

from the Germans convinced Patton he would have to proceed more carefully in the future. A series of deliberate attacks designed to capture Metz used up October and most of November, hampered by shortages in artillery ammunition, bad weather, and tenacious German resistance. The situation was much the same with 1st Army fighting around Aachen and 7th Army in Lorraine. Positional warfare at Aachen, in the Hürtgen Forest, and at Schmidt tied down and bled out two U.S. corps, burning through artillery ammunition that was already in short supply. To Patton's south, Devers found himself tied down in rugged terrain with his own supply challenges, too few U.S. divisions to maintain sustained pressure on the enemy, and a French army that was distracted integrating replacements and reinforcements pulled from volunteers from within the resistance.¹⁵⁴

Rather than bleeding out the German frontline defenders, wearing down their mobile reserves, and forcing them to consume fuel and ammunition faster than it could be replaced, Eisenhower recognized that he was losing the battle of attrition in October and November.¹⁵⁵ One bright spot, Devers's advance up to the Rhine at the end of November, was not exploited. Eisenhower was uncomfortable with the risk of putting one army across the river while the rest of SHAEF could not support them, just to reach what amounted to an operational dead end.¹⁵⁶ On 24 November, SHAEF ordered Devers to stop his preparations for an assault crossing of the Rhine. The Allies never stopped their probing attacks between September and early December, but these were smaller, localized operations conducted by a few divisions at a time, meant to secure tactical objectives and wear out German formations until they broke. Eisenhower could

¹⁵⁴ Pogue, 305. 1st French Army, already short the service troops needed to maintain the fighting divisions, was busy trying to integrate FFI recruits into regular formations and exchange metropolitan Frenchmen for the Arab soldiers that were veterans of combat in North Africa and Italy.

¹⁵⁵ Pogue, 306.

¹⁵⁶ Wheeler, 364-365.

not coordinate a multi-army sustained attack until Antwerp was open, thus clearing up his supply and transportation situation. Since Antwerp was not opened until late November, SHAEF was forced to plan for a massive new attack in early 1945, an operation that might allow the Allies to cross the Rhine at a couple of points, shatter German cohesion in the West, and reinstate mobile warfare on an operational scale. Although they failed to understand it at the time, SHAEF had lost its best opportunity to pierce the Westwall and get across the Rhine in the first half of September, and they did not have the strength to do so in October and November. Because it took so long to open the port of Antwerp and because no other solution to the Allied transportation shortage existed, SHAEF could not properly resource more than two deliberate, army-level attacks at a time. Because Eisenhower either could not or would not mass his resources for one powerful but isolated thrust, the Allies had to settle for static attritional warfare until the logistical situation improved. A combination of logistical challenges and Eisenhower's commitment to mutually supporting attacks conducted on a broad front prevented the Allies from trying to penetrate the German line and achieve an operational-level breakthrough in 1944. As a result, SHAEF had to ride out the German counter-offensive in the Ardennes and then wait for the return of decent weather in the spring before trying once more to restore mobility to the front.

Conclusion

This chapter has demonstrated the strengths and weaknesses of the systems used by SHAEF to control sustainment operations at the theater level and to reconcile what the command hoped to accomplish with what the experts considered logistically possible. We have seen that SHAEF logistics planners had a realistic understanding of the current supply and transportation situation, often having a more accurate view than Lee's COMZ. In his first few months as the

Chief Administrative Officer at SHAEF, Gale built the staff agencies and led effective meetings required to identify and then study complex issues, which could then lead to synchronized solutions and cohesive recommendations. Smith, Gale, Crawford, and Bull collaborated well among themselves and with their peers in the various service commands. The creation and empowerment of a strong Joint Plans Section under Brigadier McLean and the Logistics Plans Section under Colonel Whipple ensured that SHAEF often had a more holistic understanding of the interrelationship between sustainment and maneuver than any other Allied headquarters engaged in France.

Despite the healthy organizations and procedures in place at SHAEF calculated to manage and integrate logistics into the theater campaign, Gale's team suffered as a result of two relevant shortcomings. Throughout August as SHAEF gradually transitioned into their role as the ground war coordinator, Gale and his subordinates realized that things were not running as smoothly within COMZ as they assumed would be the case. For a few weeks Gale tried to get Lee to fix these problems before finally giving up in early October and taking over those tasks at his level. Gale found it especially frustrating that COMZ did not have an accurate picture of ongoing logistical operations, that Lee never seemed to have the details at his fingertips, and that the team at ETOUSA could not be counted on to accomplish the many promises made by Lee and the chiefs of the technical service sections.¹⁵⁷ Reflecting on a meeting conducted on 12 September at 21st AG headquarters to work out the details of additional logistical support needed for Market Garden, Gale noted: "It is clear that the success of this visit was largely due to the fact that we had someone [Lord] with us who could speak authoritatively for what the Com Z

¹⁵⁷ War Diary, LTG Gale, CAO at SHAEF, entries for 5 August, 4, 6, 12, 16, 21, and 22 Sep 44. Gale Papers, Section 2, Entries 14 to 25, Liddell Hart Center, King's College, London.

could do. The C.G. himself is never able to give you a decisive answer.”¹⁵⁸ About a week later, in response to criticism from Montgomery about the theater supply and transportation situation, Gale defended SHAEF’s performance: “In actual fact we have no means of knowing the exact logistical situation of the American Armies as their system dictates that this information is in the hands of COMZ and even their Army Group do not know the details.”¹⁵⁹ Gale had realized that it was impossible to manage theater logistics when over half of the variables remained a mystery and when the “facts” that were shared often proved to be wildly inaccurate.

This public admission of incompetence by COMZ led to something of a breakthrough; on 22 September Gale, with Eisenhower’s blessing, began to take a more direct role in managing COMZ and taking over the functions it was performing poorly or not at all. This transition to a more hands-on approach corresponded to a period when the front lines had stabilized and SHAEF and COMZ were settling into well-resourced facilities that allowed them to consolidate half a dozen headquarters into two locations separated by about a dozen miles. In early October SHAEF established overlapping procedures designed to extract more timely and accurate information from subordinates, information which then formed the basis of integrated assessments, future plans, and recommendations to the commander. In early October, looking back on what had gone wrong with logistical support in the theater over the last few months, Gale and Hughes concluded that Lee and COMZ had struggled to remain relevant because they did nothing to stay up to date on the current operational situation and did not maintain regular contact with the army groups in order to identify their priorities and concerns.¹⁶⁰ Since Lee

¹⁵⁸ Ibid, 12 Sep 44.

¹⁵⁹ Ibid, 21 Sep 44. Eisenhower, Gale, and Napier had flown to Brussels to meet with Montgomery, who lashed into Gale over the logistical problems bedeviling not only 21st Army Group, but the entire Allied force.

¹⁶⁰ Gale’s War Diary, 5 Oct 44.

knew about this assessment and still had not done enough to fix the areas of concern, Gale and the SHAEF logistics staff decided to do the work themselves.

The second challenge confronting the logisticians at SHAEF was getting Eisenhower to listen to and consistently agree with Gale's team at SHAEF. First, the logistics and joint plans sections at SHAEF found it extremely difficult to keep up with the pace of change after Cobra, often finding themselves presenting assessments or recommendations undermined by developments over the last 24 to 72 hours. Second, Montgomery, Bradley, Lee, and, to a lesser extent, Hughes provided Eisenhower alternative and sometimes conflicting sources of information and recommendations about the logistical situation and its impact on projected operations. SHAEF often had the best information and most realistic assessments, but even then they were far from perfect. Every mistake and missed projection made it that much harder to compete with narratives reaching Eisenhower from other sources. In the end, Eisenhower was, and probably needed to be, more comfortable taking risks that undermined his logistical foundation in order to punish the enemy and accomplish operational objectives. The SHAEF staff had excellent access to Eisenhower, but they were not the lone authority on logistics, nor was their opinion the one the commander was predisposed to prioritize in every case.

Up until the decision to launch a full-scale pursuit east of the Seine, Eisenhower and his subordinates generally listened to their logisticians and accepted the restrictions to maneuver that they recommended. The campaign was going so well after 25 August that Eisenhower decided to ignore Montgomery's plea to focus all transportation behind one army group, preferring to drive as fast and with as much combat power as was possible to ensure that the Germans could not catch their breath. The risk associated with this decision was very low; it was obvious that every German formation in France was either bottled up manning a fortress or else was wrecked

and incapable of staging anything beyond very limited local counterattacks. Ultra would alert the Allies of the arrival of large-scale reinforcements coming from another theater, which was highly unlikely anyway because of German transportation difficulties and the disaster unfolding on the Eastern Front between June and October.

Perhaps the two great surprises that resulted from the Allied decision to push beyond the Seine with three armies (four if one included 7th Army in the south) were , first, the rapidity with which significant logistical problems emerged and, second, the speed with which the Germans recovered, who managed to man a defensive a line running from the Albert Canal, along the Westwall, and down the Moselle by early September. Patton's and Hodges' lead formations were quickly strung out by recurring fuel shortages; as a result, when the Americans ran into knots of German defenders, they struggled to quickly mass enough combat power, backed up by adequately supplied field artillery, to bypass and overrun even minor pockets of resistance. In addition to losing entire days sitting idle waiting on the delivery of fuel, U.S. vanguards, too small to blast around or through ad hoc positions manned by German battle groups had to wait on support coming up from the rear and arriving on the flanks of the enemy before they could start moving again. Planners at SHAEF had warned that this would happen, but Eisenhower had decided to accept the risk.

By the first week of September, Eisenhower was stymied by the very situation that Montgomery had warned would develop. Brest, deemed essential by theater logisticians and Bradley alike, had tied down VIII Corps and was sucking in supplies, transportation assets, and airpower sorely needed elsewhere. Patton found himself tangled up in the twin strongpoints of Metz and Nancy, while Hodges struggled to cross the Meuse and reach the Westwall to his north. Montgomery halted just short of the Albert Canal at what he considered the prudent limit of his

line of communication, awaiting the arrival of divisions left behind during the pursuit and giving his logisticians time to build up local supply dumps and perhaps open a minor port closer to the front lines. By the time each army tried to resume offensive operations between 5 and 17 September, they were met by German defenders that had recovered their equilibrium. In attempting to accomplish five major objectives simultaneously, Eisenhower virtually guaranteed that he would accomplish none of his objectives quickly or cheaply, committing the Allies to a second round of attritional warfare in worsening weather and rough terrain. Montgomery had warned Eisenhower repeatedly in August and during the first ten days of September that he had to pick and properly resource one major thrust. After seemingly conceding that Montgomery was right on 10 September, Eisenhower changed his mind a few days later and authorized simultaneous attacks by 12th Army Group that seemed disjointed from the goal of establishing a bridgehead over the Rhine and clearing the approaches to Antwerp. Regardless of the merit of this decision, Eisenhower made an obvious mistake when he allowed Montgomery to first talk him into postponing a major effort against the Scheldt until after Market Garden, and then to dither for almost a month before launching a properly resourced, all-out attack aimed to clear the approaches into Antwerp. In both cases, Eisenhower's logisticians had painted a clear and accurate picture of the implications of such decisions, warnings Eisenhower chose to ignore.

SHAEF could have overcome their logistical limitations and achieved additional operational advantages during the fall campaign by making different decisions on how to conduct the ground war. But things might also have gone better if ETOUSA/COMZ had been more efficient when it came to using the resources they did possess. The next chapter will examine how and why ETOUSA and COMZ struggled to fulfil their duties as the integrator of logistics for the theater. Unlike SHAEF and 21st Army Group, COMZ lacked the practical

combat experience required to quickly identify problems and staff shortcomings and take decisive steps to solve them. The U.S. 1st Army and 12th Army Group shared the challenges linked to inexperience, but they benefitted from the direct supervision and support afforded by 21st Army Group from January to late July 1944. Only Lee and ETOUSA/COMZ found themselves both unprepared and unsupervised during the critical months of the Allied breakout and pursuit. By the time SHAEF realized that COMZ could not stand on their own, it was too late to repair the harm they had done to the chances of a strategic victory before the recovery of the German Army and the arrival of winter weather. As we will see in the next two chapters, COMZ had the assets to better support 1st and 3rd Armies, but they lacked the competence and organizational procedures to do so.

Chapter 6 - COMZ's Struggle to Adapt in France

This chapter focuses on exactly how staff procedures worked in ETOUSA/COMZ and on what the commander personally prioritized and focused his organization on accomplishing. The next chapter looks at how COMZ executed the sustainment mission, with a special emphasis on the performance of motor and aerial transport during the pursuit across France, and on the similarities and differences with logistical support in 21st Army Group. It should come as no surprise that COMZ made rookie mistakes during the first three months when it was in charge of theater logistics, despite having already performed that mission for two years in the U.K. Lee failed to anticipate adequately the challenges his outfit would face in France or to prepare sufficiently to conduct the tasks he did identify as critical to success. COMZ recovered quickly; by late October the command had a good handle on the theater requisition and distribution system and could run the rear area. But Lee's command never mastered the art of operational planning and collaboration with the joint-combined headquarters and the various headquarters running combat operations, failing to live up to the role U.S. doctrine reserved for the COMZ/SOS. There were institutional hurdles that made adequate preparation difficult, but in the end, Lee's personality seemed to do the most damage. Lee seemed unable to focus his attention on the impact combat conditions would have on the COMZ staff and to master the technical processes that were essential to managing a theater requisition and distribution network. Lee remained at heart an engineer and a supervisor of complex construction projects, not an integrator of the quartermaster and transportation function.

As we saw in the previous chapter, SHAEF enacted some decisions that made COMZ's job much harder than it needed to be. Regardless, it seems that COMZ could have done more to support the continuation of the pursuit in August and September. SHAEF and the two army

groups thought it reasonable that they might penetrate the Westwall and cross the Rhine in the fall of 1944. This goal was considered logistically and tactically feasible as late as the end of September.¹ There was also agreement, among officers at the time and among historians since then, that various logistical expedients would have made it possible to achieve some of these objectives. This chapter will demonstrate why COMZ was incapable of synchronizing the level of support needed to accomplish those objectives -- namely, that each commander has an outsized impact on the performance and capabilities of his organization, that true learning emerges much more easily from doing rather than watching, and that it is almost impossible to accomplish one taxing mission and adequately plan and prepare for another.

It is hard to pinpoint what tasks COMZ was and was not deeply involved in, and what Lee considered important and of secondary importance. Record keeping at ETOUSA/COMZ/SOS was spotty, varying in quality over time and among the various components of the command. One finds batches of meticulously kept and operationally focused records, but the quality and regularity of those documents dropped off from early August through late September when the command was consumed with relocating from the U.K. to Normandy and then on to Paris. This uneven attention to recordkeeping was not unique to COMZ; SHAEF and 21st AG had a similar gap, and this lack of documentation during a critical period in the campaign makes it hard to unravel exactly what the logisticians were trying to accomplish. It is easier to reconstruct what was going on at SHAEF and within the army groups in comparison with COMZ because those leaders maintained diaries, wrote operational summaries soon after the front stabilized to cover what had happened during the pursuit, produced honest and detailed

¹ Pogue, 251, 259, 295. As late as 27 September Montgomery was pushing for a combined operation by 2nd and 1st Armies to capture the Ruhr and establish bridgeheads over the Rhine north and south of Köln. This idea was finally killed by the strength of the German resistance northwest of Antwerp and before Aachen in early October.

official reports soon after the war, and agreed to be interviewed by and provide frank answers to U.S. historians over the next decade. We have already seen that Lee and his command were different in this regard. Lee avoided interviews or, when he did agree to them, gave superficial answers to most questions. His command wrote few “after-action reports” or “lessons learned” summaries and did not maintain a war diary or a register of decisions made. The General Board reports supervised by COMZ and ETOUSA were simplistic narratives that tended to avoid any causal linkage or deep self-assessment and had few concrete suggestions about how the command could have functioned more effectively. The reports produced by the ETOUSA special staff sections were much more useful, but also more technical in nature. ETOUSA and COMZ produced hundreds of boxes of historical documents during the campaign in Western Europe, but those records are poorly organized, resisting a search for insights into how the COMZ staff functioned and what role they had in the operational aspect of the campaign.² As a result, it is extremely difficult to determine with any certainty what exactly Lee and COMZ did to solve the logistical problems plaguing SHAEF and the army groups.

Lee had positioned a significant part of the ETOUSA staff in Normandy by 7 August, linking up with FECZ and assuming responsibility for the recently activated communications zone. At this point COMZ tried to assume its doctrinally defined role as the lead agency for managing logistics and principal sustainment advisor to Eisenhower in his capacities as ETOUSA and SHAEF commander. COMZ was immediately confronted by the need to modify the procedures they had perfected in the U.K. in order to make them applicable to the conditions the command faced in France. COMZ spent the four weeks on the continent moving first to

² These records are not broken down into sub-categories, finding aids and categories are sometimes incorrect, and across the board the finding aids are much less helpful than those for the other significant U.S. organizations.

Normandy and then to Paris; taking over duties from the ADSEC, FECZ, and ETOUSA special staff; immersing themselves in the details of the logistics plan; and trying to synchronize theater-level logistics under combat conditions for the first time in its two-year history. In the process, COMZ discovered that they had major problems with their ability to command and control complex logistical operations and that the G-4 section could not effectively manage the requisition and distribution systems. The general staff at COMZ, especially the G-4 section, did not know how to identify and prioritize requirements coming in from the field, figure out what was immediately available for delivery in the theater, and match service troops with transportation assets to deliver the essentials to continue combat operations. The original plan to divide the rear area into various base sections was still applicable, but at first the lodgment expanded much more slowly than anticipated, and then much quicker than forecasted, forcing Lee to abandon his original plan to match clusters of staff officers to a specific region in France. Surprised by a number of unanticipated developments, ETOUSA demonstrated that it was a flexible and adaptive organization, and by late October they were well on their way to implementing the changes required to fix problems identified earlier in the campaign. But these changes came too late for SHAEF to sustain the operational momentum needed to pierce the Westwall before the end of September. Furthermore, COMZ struggled to restore the theater sustainment systems throughout October and November. Failure to do so prevented a rapid resumption of offensive operations that might have restored mobility at the front. Adequate supply and transportation resources were available on the continent to do so, but COMZ could not harness them before the Germans solidified a new defensive line.

Admittedly, the breakdown of the Allied transportation network confirmed everything the logisticians had warned might happen if they continued past the Seine without shortening or

restoring the lines of communication beforehand. Despite what was, in retrospect, a thoroughly impressive performance in rehabilitating ports, bridges, roads, rail lines, and building hundreds of miles of POL pipelines, the Allies could not keep the lead elements of three armies on the move in September. One by one, 3rd, 1st, and 2nd British Armies ran into supply difficulties and slowed down, allowing the Germans to recover and scrape together a defensive position anchored on obstacles along their western border. Forced to rely almost exclusively upon motor transport, the Allies could not deliver enough fuel to keep the spearheads moving and to keep the Germans on the run or enough ammunition, combat troops, and replacement equipment to quickly blast them out of their hasty defensive positions when they stopped.

COMZ's performance during this period was impressive, but it also exposed their inability to ruthlessly prioritize what was shipped to the front, maximize the transportation assets that were available, and maintain a healthy dialogue with the staff officers within the two army groups. COMZ struggled to figure out exactly what 12th Army needed, ship them only those items, and maximize the potential of the truck companies, air transport, and POL pipelines that were available. There was also a similar breakdown in communication and coordination within COMZ itself. A cursory examination of how requisition and distribution were managed within 21st Army Group and its FUSAG staff liaison section suggests that the British had a more effective system that succeeded in avoiding the problems that emerged in the U.S. system. It would have greatly benefitted the Allies if COMZ had successfully integrated some of these techniques prior to taking over the communication zone for the theater in early August.

In order to help accomplish SHAEF's operational objectives for the fall of 1944, COMZ would have needed to behave differently. First, it would have demanded of the organization a ruthless efficiency and ability to enforce priorities that could only be expected from an

experienced and well-oiled bureaucratic machine. Second, it would have required a positive relationship with SHAEF and the two army groups that was based upon mutual respect and effective two-way communication. Only then could Lee have helped Eisenhower and Bradley scope and sequence operational objectives to conform with the limitations imposed by ETOUSA's distribution network. It would have been helpful if some senior logistician had recognized the possibility that a long pause along the Seine would not be realistic and had directed a serious study of what could be accomplished using only motorized and aerial transport and the ports and beaches of Normandy. Whipple, McLean, and the administrative staff at 21st Army Group had a good working knowledge of these parameters, but these concerns did not penetrate up to the level of Bradley and Eisenhower. Not only did Lee fail to serve as the senior logistical advisor to the U.S. and Allied commands, but on two separate occasions he encouraged Eisenhower to try to do too much based upon an overly optimistic assessment of the logistical situation provided by COMZ. Lee was also late coming to the table with a comprehensive reassessment of the Allied plan to open various ports, adding nothing of value in late August and the first half of September when SHAEF was trying to decide if clearing Brest was worth the effort, what should be done with the recently captured Channel ports, and if everyone could just hold on until Antwerp was opened up. Luckily for the Allies, Eisenhower had other logisticians available to take on the role as the senior sustainment advisor and integrator while SHAEF made major changes to the original theater campaign plan for Overlord.

As we will see, Lee and COMZ struggled to fulfill their most fundamental role -- managing the service units assigned to the rear area -- much less take ownership of operational planning and the integration of sustainment into the scheme of maneuver, roles Lee had surrendered back in the fall of 1943. Lee and his subordinates did not seem to realize it, but,

without immersing themselves in the operational aspects of the campaign, it was almost impossible to run the communications zone under the conditions experienced during the pursuit. By late September COMZ realized that it had surrendered too much authority to ADSEC, ignored the operational side of logistics for too long, and failed to build the internal structures and systems that were required to run sustainment at the theater level. The most important staff section, the G-4, was poorly organized and did not understand its unique role, and no other staff sections had the time, manpower, or remit to help them. All along Lee had hoped to empower his base section commanders and to delegate the forces and authority required to allow them to manage the details of synchronizing support to the armies, hoping decentralized execution by commanders could overcome any shortcoming in COMZ's ability to control from the center.

But COMZ discovered that the mission in France was very different from the role they had filled in the U.K. In France, what everyone needed was a coordinator or conductor to manage the interaction between base sections, technical staff sections, the army groups, and SHAEF. Someone had to bridge the gap between the nearly limitless demands of the combat units and the limitations imposed by the transportation network and array of service troops. A functional COMZ could have explained this reality to SHAEF and the army groups and then could have collaborated with the operational commands to accomplish a set of sequenced objectives. Once equipped with a realistic list of missions to accomplish, COMZ could have assigned roles and forces to base sections and units with a theater-wide span of authority, such as the Motor Transport Brigade or Military Pipeline Service, and it could have synchronized everyone's interaction to achieve acceptable results on time. But COMZ was not ready to perform these functions during their first three months on the continent, and, as a result, the Allied sustainment system collapsed in early September and did not fully recover until early

December. Lee's command learned quickly, but the gap between the required level of performance of an effective theater service command compared to the starting capabilities of ETOUSA/COMZ was too great to overcome quickly or easily.

COMZ C2: Synchronizing the Sustainment Mission

Lee established the COMZ command post at Valognes on 7 August, assuming responsibility for the newly established communications zone and placing his staff in close proximity to the two army groups they were charged with supporting. Large portions of the ETOUSA special staff had been attached to ADSEC and FECZ before the invasion started, and deployed to France between mid-June and mid-July. From 7 August to the middle of September Lee's headquarters operated from the camp at Valognes and attempted to fulfill its multi-functional role as ETOUSA and COMZ. For the first time in its history, ETOUSA/COMZ was solely responsible, at least in theory, for operational sustainment planning, theater-level logistics integration within the overall campaign plan, and management of the communications zone. Its performance in the three different roles was mixed, but, as could be expected of any inexperienced organization forced to jump into the middle of an ongoing complex activity, COMZ struggled to make itself relevant during its first three months on the continent, and to anticipate and solve logistics problems bedeviling the two army groups, but especially 12th AG.

Forming a dispassionate opinion about the performance of COMZ during this critical stage of the campaign is complicated by the lack of accessible records. Lee, COMZ, and the ETOUSA special staff did not maintain war diaries or continue to produce periodic operational reports like those maintained by ADSEC, 1st Army, and 12th Army Group. In general, COMZ or ETOUSA were only mentioned by these other commands to note disagreements or perceived

failures to adequately support the combat units. Official histories and General Board reports completed after the war seem to gloss over either the events or the underlying causes of friction that plagued COMZ from August to October. One is forced to rely on what few internal contemporary records survived from COMZ, logistical breakdowns captured in the historical record, and competing narratives about what went wrong generated after the war.

What emerges is the picture of an inexperienced organization trying to make the uncomfortable transition from the physical comfort and relatively slow pace of operations in the U.K. to combat field conditions ten days after the breakout following Cobra. Any traction the command had started to gain was disrupted by the phased move to Paris that occurred between 1 and 14 September. At two critical points during the Allied pursuit of the Germans, COMZ found themselves in the middle of its transition with ADSEC in Normandy in mid-August and in the middle of its move and consolidation in Paris during the first two weeks of September. Even if the command had been combat-hardened, had had excellent contacts and a solid reputation at SHAEF and with the two army groups, and had been adequately equipped with communications networks to its critical partners, it still would have struggled to complete the two moves while keeping a tight grip on managing sustainment operations.

Actually, the general staff at COMZ found themselves forced to really pay attention to the operational sustainment plan for the first time since its publication. They also had to try to absorb and adapt various procedures that had been refined by ADSEC during its two months alone in France. At the same time COMZ was trying to make sense of the widely scattered array of depots and an uncertain inventory of what was stored where on the continent and what was still afloat awaiting a berth to begin unloading the cargo. The relationship among ETOUSA/COMZ, SHAEF, and what would become the 12th Army Group logistics staff had

been damaged by the frantic last-minute activity that precedes any large operation.

Communications networks were good, but they were insufficient to run sustainment with the same procedures that had been used in the U.K. COMZ did not seem to understand the critical role that only they could achieve or how they should organize and operate in order to do so.

Confronted by their first logistics challenge, COMZ stumbled badly. ADSEC had settled into a functioning rhythm, and many key leaders from the ETOUSA staff had been on the continent for weeks learning the ropes. But for the COMZ general staff, especially the G-3 and G-4, it was the first time they were confronted by their combat mission. Because they were an organization that emphasized the importance of constantly learning from its ongoing operations, COMZ figured out how to do their job sufficiently well to accomplish the mission by early November. There was similar growth in understanding how to array base section boundaries and the role of the staff in each of these regional commands. Because these lessons were learned largely by reacting to complaints and watching the armies run out of essential supplies at the front, COMZ was unable to harness the full potential of the command in order to extend the reach of the pursuit just a little farther in September or to help trigger a return to mobile operations in October. COMZ was too busy learning how to do its job between August and October to overcome any logistical mistakes made by SHAEF and 12th AG.

ADSEC Fills the Void

The division of effort among the various headquarters that contributed to planning sustainment operations during Overlord has already been mentioned, but it is helpful to quickly review the way SHAEF outlined how command and control responsibilities would change over time during the campaign. This was directly related to which headquarters published what

planning documents and when they did so. It is worth noting that SHAEF played no official role in developing the various plans designed to govern logistics up to D+90. Until they took over control of ground operations from 21st AG somewhere between the activation of 12th AG and D+90, SHAEF had no direct role in controlling logistics and integrating that effort with maneuver.³ The family of orders, their publication date, and the windows of responsibility over time relating to logistical support in Overlord is depicted in the two tables below.

| Title of Document | Publishing HQ | Date |
|-----------------------------------|----------------------------|----------|
| Neptune Initial Joint Plan | SHAEF (21 AG, AEAFF, ANXC) | 1 Feb 44 |
| U.S. Concept for Neptune | FUSA | 25 Feb |
| Joint Outline Maintenance Project | SHAEF | 23 Mar |
| Joint Administrative Plan | FUSAG (at 21 AG) | 19 Apr |
| ADSEC Plan | ADSEC | 30 Apr |
| COMZ Plan | FECZ | 14 May |

Table 6.1: Authority and publication date for components of the logistics plan⁴

| Dates | Chief of Rear | Supporting Ele | Coord. Agent | Trigger for Change |
|-------------|----------------------|----------------|--------------|---|
| D to D+20 | 1 st Army | ADSEC | 21 AG | Activation of a 1 st Army Rear |
| D+20 to +40 | ADSEC | FECZ | 21 AG, 12 AG | Arrival 3 rd Army; Activation of 12 th AG |
| D+41 | FECZ | ADSEC | 12 AG, 21 AG | Brittany and Normandy Base Sections Established |
| D+90 | COMZ | ADSEC | SHAEF | Closure of COMZ in France |

Table 6.2: Allied transition plan for the control of logistics⁵

³ Of course, Eisenhower was the ETOUSA commander, and as such had administrative responsibility for all U.S. forces in theater. In reality, he delegated all administrative duties to Lee, Spaatz, and Bradley.

⁴ Ruppenthal, Vol. I, 269.

⁵ Bykofsky and Larson, 234-245. The authors explain the concepts used to divide up Overlord planning and the control over the rear area in France among the various commands, and then explain how those concepts changed up through early August.

There are three obvious conclusions suggested by these two tables. First, the division of labor among so many agencies directed to develop the sustainment plan for Overlord made it difficult to maintain one common vision among all them and among the officers who made up these organizations. Second, the detailed plans published by ADSEC and COMZ were finished so late in the preparation phase that it was almost impossible to disseminate them, internalize their instructions, reconfigure organizations to execute the tasks directed, and gather more resources to make the directed tasks easier to achieve. Third, the constant transfer of responsibility for coordinating logistics and maneuver combined with four planned transitions of which agency was charged with managing the communications zone ensured that procedural continuity was a fantasy. Even if everyone had perfectly understood and agreed with the plan, it was almost guaranteed that four different commands could never execute them the same way. Both sets of command transitions, among the coordinating headquarters and among the executive headquarters, were likely to be difficult. In the end, the first critical transition, and the more influential upon the fortunes of the Allied pursuit, was the three-way reconfiguration in early August. At that time, 12th AG was activated and began to operate semi-autonomously from 21st AG, ETOUSA took over responsibility for the communications zone in France from ADSEC, and Eisenhower and SHAEF exerted a strong influence over the campaign while postponing their official assumption of ground coordination duties. It was within this context that COMZ tried to perform its combat mission for the first time, only to discover that initially they could not effectively replace ADSEC and the logistics coordination element under FUSAG/12th AG at 21st AG headquarters.

COMZ's inability to smoothly assume the role of FUSAG and ADSEC two months into the campaign might be surprising. ETOUSA/COMZ was a much larger organization than

Plank's ADSEC, one that enjoyed the benefit of a very senior and experienced team of technical service chiefs, continuity among the base section commanders and staff brought along to France, and almost two years of practical experience working together in the U.K. But two problems confronted Lee at the beginning of August. First, the sustainment mission became exceptionally more difficult after the breakout that followed Cobra. Second, COMZ was the weak link in a chain of organizations that had spent months studying the logistical challenges associated with Overlord and had then accumulated two months of practical experience figuring out what actually worked on the continent before Lee and his team showed up. The fact that COMZ trusted ADSEC and FECZ to the extent of being comfortable all but ignoring operational planning and early operations in France was all the more surprising because Lee disagreed with the standing up of those organizations in the first place. SHAEF ordered the creation of ADSEC based upon recommendations inherited from COSSAC. Lee's reaction to the creation of an organization whose form contradicted doctrine and blended together the roles of a base section, ADSEC, and COMZ, was to create his own FECZ in a bid to retain control over operational planning.

But the cumulative effect of employing strong personalities to lead logistics organizations focused on combat tasks was a migration of authority and expertise away from ETOUSA/SOS into FUSAG and ADSEC and, to a lesser extent, FECZ and SHAEF. For various reasons, COMZ allowed ADSEC to become the operational logistics experts within ETOUSA. Letting ADSEC do its job was not the problem; the problem was that once SOS delegated various responsibilities to ADSEC and FECZ, the command largely ignored the details associated with Overlord until early August. Paired with FUSA and FUSAG, ADSEC became the dominant

U.S. logistics player in the months leading up to the invasion and during the first two months of its execution.⁶

The creation of what would eventually become the advanced section of COMZ, commanded by BG Ewart Plank, grew from an initiative launched by COSSAC. The operational history of ADSEC, written in August 1945, stated that the earliest drive to create a specialized organization to improve logistical support to the invasion force developed after COSSAC sent a team to Italy to study supply difficulties sometime in the fall of 1943.⁷ This team visited Hughes' NATOUSA in Algiers, 5th Army headquarters, and the base section providing support for U.S. forces on the Italian peninsula. After a rough start, NATOUSA agreed to create an advanced section collocated with 5th Army to coordinate logistical support with the base section, Larkin's SOS, and NATOUSA. In addition to the functions listed in *FM 100-10*, 5th Army's ADSEC was heavily involved in maneuver planning, helping to relate projected operations to a concept for how to sustain those operations that blended service units, accumulate the specific material requirements, and establish the command and control structure necessary to synchronize these surge periods that could not be handled exclusively by routine procedures. One of the most relevant observations for COSSAC was the conclusion in 5th Army and NATOUSA that "[a] further source of difficulty emanated from the fact that the agency responsible for supply operations was not the one which had done the logistical planning."⁸ COSSAC's solution was to

⁶ Simple labels for the sustainment planning and management teams are misleading; ADSEC played a major role, but other organizations were essential to the process. The operational logistics planning team evolved from a number of committees at COSSAC, and included small elements from the ETOUSA/SOS special staff, ADSEC, parts of FECZ, FUSAG, and 21st AG. SHAEF played an increasingly important role beginning in April. Control over support units in France, and their integrations into the ground scheme of maneuver, was also a group effort. ADSEC, slowly reinforced by officers from FECZ, worked closely with FUSA and the U.S. element at 21st AG to synchronize their activities. The logistics staff at SHAEF had a major impact on the flow of the campaign in July and August, helping to set the tone of what was and was not demanded of the service troops.

⁷ Operational History of ADSEC, ETOUSA, August 1945, 2. RG 407, Entry 427, Box 190.

⁸ Ibid, 2.

press for the early creation of an ADSEC to help plan logistical support for Overlord and then to coordinate logistics for U.S. forces in France prior to the arrival of FECZ or COMZ.

One may be tempted to read too much into the sequence of events leading to the decision to activate ADSEC and into its timing. The reality is that COSSAC, doubtless encouraged by Crawford and Moses, came to the conclusion that 1st Army and then FUSAG would benefit from an offshoot of SOS dedicated solely to operational planning. Recent experience also pointed out the advantages associated with using the command that built the plan to execute it. It also made sense to get elements of the first base section and staff officers of what would eventually be the COMZ ashore and working as soon as possible. Morgan saw the value of the idea, but only Smith and Eisenhower could make it happen. Because of all the turbulence among the headquarters and personalities involved, the order directing the creation of ADSEC was not issued until 7 February. Plank had been warned of this possible development back at the end of December, and was shifted from command of the Eastern Base Section to chief of this new organization on 30 December. With no formal duties and very few assigned personnel, Plank decided to take the core element of his new team on a reconnaissance mission to the Mediterranean during the second half of January.

Plank visited a group of organizations that had already been studied by the COSSAC team, accompanied by his chief of staff and the chiefs of his transportation, medical, ordnance, and engineer staff sections. The group spent three days with AFHQ and NATOUSA; a week with the Peninsula Base Section (which had evolved from the ADSEC), 5th Army, and AFHQ forward; and three days with the SOS and Mediterranean Base Section.⁹ Plank was especially interested in anything he could pick up on repairing ports, building POL pipelines, and, in

⁹ Ibid, 4.

general, repairing existing infrastructure rather than trying to use new construction. At each stop the team asked what the command had learned to speed up requisition and distribution procedures, better organize the staff, and cut unnecessary overhead. The observation group returned to the U.K. on 5 February, and ADSEC was formally activated on 7 February.

ADSEC played a decisive role in developing what would become the FECZ's COMZ plan. The process that Plank used to create that plan is instructive, showing what was required to integrate a dozen individual plans proposed by various service units into a synchronized concept of support. After studying everything they had inherited from COSSAC and ETOUSA and after validating their own planning assumptions with SHAEF and 21st AG, ADSEC spent about five weeks developing and refining the proposals from individual services. Plank referred to these sessions as "wargames," and each iteration consisted of an initial briefing by the special staff section in charge, followed by a question-and-answer period with the entire general and special staff of ADSEC. The goal of each of these sessions was to develop plans within each technical service that meshed with the plans of their fellow specialists. It was up to the ADSEC general staff to identify friction points, where the activities or resources required by one section might limit the capabilities of another, and to recommend a solution to allow both to succeed at the same time or else to prioritize one action over the others. The general staff also identified and tried to resolve any cases of overlap or gaps in planning or supervisory responsibility. It was a hard process because of the number of invested staff sections and the complexity of the plan they were trying to write.¹⁰ Wargames were conducted from 18 March to 26 April; annexes were

¹⁰ The final version of the COMZ plan published by FECZ on 14 May contained seventeen sections, seventeen appendices, and fourteen annexes. The official history of the ADSEC noted how a lack of in-house printing capability complicated their work. The command did not have the resources to print copies of each service estimate through their various permutations, or create a master reference of assumptions and consumption rates.

completed and turned into FECZ for review by 5 May. Nailing down the troop list and the POL annex proved to be the most difficult parts of the plan to complete.

After the sustainment plan was completed, the next priority was to prepare ADSEC for the different operating conditions they would face in France. There they would be confronted by less well-equipped facilities and a more frantic pace than they had experienced in Bristol. The staff spent a week living and working out of tents, and started figuring out the impact that twenty-four-hour-a-day operations would have on the staff. Breaking the staff into two shifts was the answer, but this triggered a search for internal efficiencies and procedural short-cuts needed to accomplish twice as much work with the same number of people.¹¹ Plank tried to replicate the tasks his command would face during the first week of Overlord, ensuring that staff sections understood and followed the plan and various ETOUSA and ADSEC SOPs. Learning from four months of activity before the landing and from the hectic pace of work during the first month ashore, the most significant organizational and procedural changes that ADSEC made were in the G-4, transportation, and engineer sections. The strength report for the ADSEC on 6 May was 1,535 total personnel, with the special staff sections dominating the general staff in total numbers.¹² Plank retained a prominent position for the special staff, leaving them in charge of planning and coordination and not trying to control or replicate their functions in the G-1 and G-4. It was a different approach from the system Lee was trying to put into place at SOS/COMZ, but it seemed to work for Plank and 1st Army.

¹¹ Operational History of ADSEC, 25.

¹² The G-4 had 81 soldiers. Engineer had 173, medical 98, signal 180, transportation 144, and quartermaster 92.

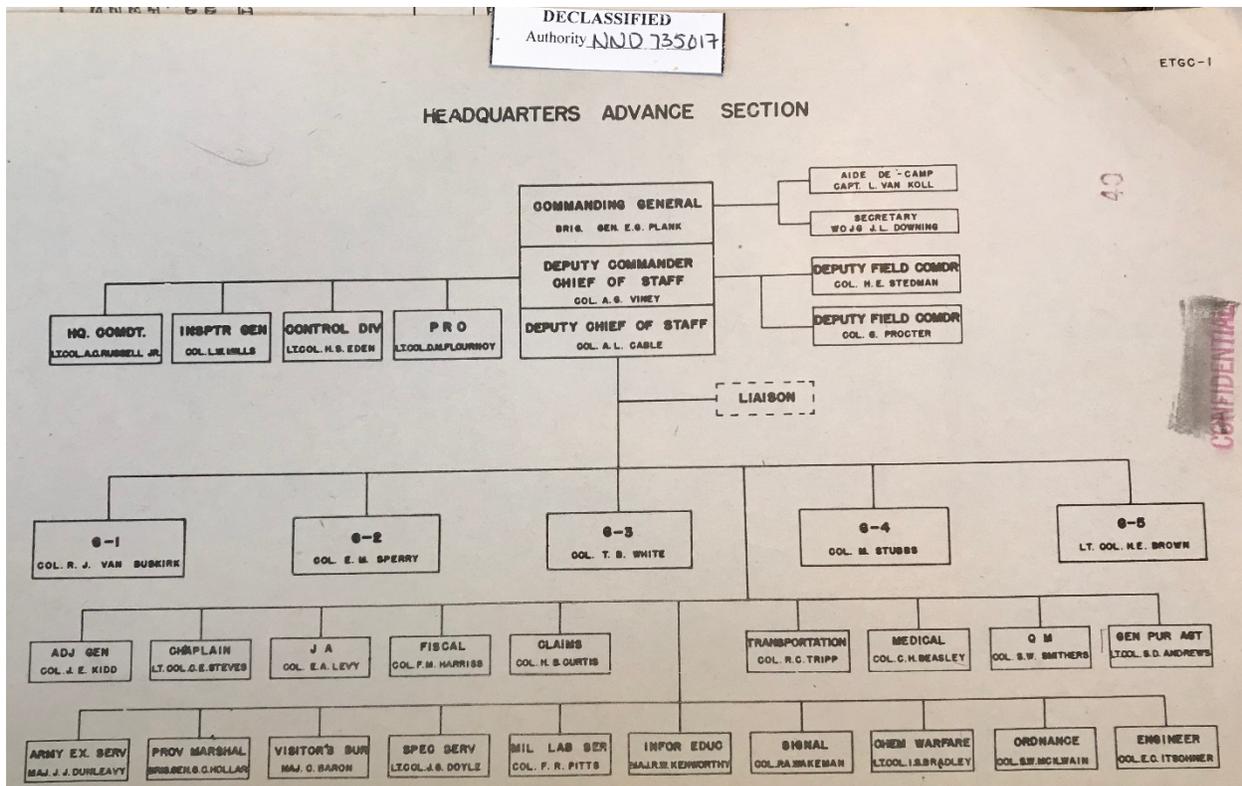


Figure 6.1: Headquarters, ADSEC, 1 May 44¹³

Looking back at the end of the campaign, the official history offered two major observations on what the ADSEC had learned from the process of preparing for and conducting Overlord. First, there had been too many U.S. headquarters trying to plan logistical support to the ground forces. Among ETOUSA/SOS (eventually COMZ), FECZ, ADSEC, and the G-4 sections at SHAEF, 21st AG, and FUSAG, according to the ADSEC historian, "...it soon became apparent that this was an unnecessary and unduly burdensome multiplicity of headquarters, and that a proper coordination of plans between the many echelons was virtually impossible... [contributing to] a paucity of coordination between FECZ and COMZ on the one hand, and

¹³ Operational History of the ADSEC, ETOUSA, August 1945 RG 407, Entry 427, Box 190.

between FECZ and ADSEC on the other.”¹⁴ As is clear in the official history of the organization, ADSEC did the majority of the detailed planning for logistical support up to D+41 and, really, for the entire lodgment phase running out to D+90. Adding FECZ and ETOUSA/SOS to the mix just increased the chance for miscommunication between the ETOUSA community and the maneuver commands (SHAEF, 21st AG, and FUSAG). ADSEC worked on operational planning full-time, as their only duty, and had mastery of the latest facts and figures from both the sustainment and maneuver realm. Because FECZ and SOS were not collocated with the maneuver headquarters they supported and had other duties beyond operational planning, they could not provide the up-to-date and nuanced answers to detailed questions from SHAEF or ASF about Overlord.¹⁵ FECZ or SOS might provide the right answer but stumble with the details that supported it, thus coming across to the office asking the questions as uninformed. This is precisely what happened during the argument over truck companies in April and May among ASF, SHAEF, and ETOUSA. The result was a loss of confidence in ETOUSA/SOS with no corresponding increase in resources to support the invasion that might have justified the additional staff work and interpersonal friction the incident produced.

The second major problem addressed by the official history was that ADSEC needed additional intermediate combined-service staff organizations between themselves and the group, regiment, and battalion headquarters of the various service units assigned to the command in

¹⁴ Appendix 3: An Examination of Some Problems Encountered by ADSEC and their Solution before and during the European Operations” to the Operational History of the ADSEC, ETOUSA, Aug 45, 3. RG 407, Entry 427, Box 190.

¹⁵ ADSEC was in Bristol with 1st Army. FECZ remained in London while 21st AG and its FUSAG cell relocated to Portsmouth. ETOUSA/SOS was split up between London and Cheltenham, but Lee and Lord admitted that the London portion of the command was overwhelmed with Bolero and the Overlord mounting plan well into July.

order to coordinate complex activities.¹⁶ The command was forced to create provisional battalion and group headquarters and to shift senior staff officers over to command posts, depots, and regulating stations to supervise activity requiring more than one service to work closely together. Typically, the largest single-service command at a location formed the core of the combined staff, but it required augmentation from other sources. It also needed a director with some experience merging the actions of three to six services.¹⁷ This was not a problem unique to ADSEC, but it was exacerbated by the massive scope of responsibility of the command relative to its size, its traditional doctrinal role, and the rank structure of staff section leaders. Ground combat forces learned during the war the value of combined arms at the lowest levels, and logistical tasks were no different in this regard. Most missions were best accomplished by a mix of various technical experts coordinated by one commander. Unlike the combat command in an armored division or the pairing of artillery and infantry in a standard division, the U.S. Army did not create standing combined-service logistical formations below the base section level.¹⁸

ADSEC backed into a realization that the U.S. Army had to think differently about logistics. Months of intensive experience had taught them that most support missions required the coordinated effort of a range of technical experts. A weakness of the Army was its lack of standing combined-service battalions and regiments or groups. Because of this, base sections and COMZ found themselves constantly in the business of breaking up organizations and reassigning companies and battalions to form mission-specific teams. Leadership was furnished

¹⁶ Appendix 3, Official History of ADSEC, 5.

¹⁷ Men with experience running an area or district command in the U.K. were an excellent source of such leaders, as were senior officers on the ADSEC and FECZ staff. Plank had been a base section commander in the U.K. for almost two years, which gave him a ready mental database of men to draw upon.

¹⁸ The ASF consisted of companies, battalions, and groups/regiments provided by each service. Multi-service staffs or organizations did not exist in the peacetime or state-side army. Creating an SOS, base section, or constituent district and area commands was an ad hoc process each time one was established.

by a core element provided by one service, augmented by technical advisors from other specialties or by completely ad hoc organizations. Plank's ADSEC was a victim of this lack of combined-service headquarters itself. Placed in charge of an organization called an ADSEC, Plank did not perform the doctrinally defined mission of an advanced section until approximately November 1944. During the first half of its existence, ADSEC carried much of the burden of planning logistical support during Overlord, a task that according to U.S. doctrine should have been performed by SOS (or its designated subordinate, FECZ). In Normandy the command functioned simultaneously as an advanced section and as a base section, and it took on some of the synchronization role that should have been filled by ETOUSA/COMZ. Despite being resourced as if he were running a base section, Plank managed to accomplish all these missions reasonably well while retaining the trust and respect of both COMZ and 12th AG. It speaks volumes about the professionalism of his team and the advantages offered by proximity to the maneuver command and a sole focus and purpose. It was also a win for SOS, even if the organization was originally forced upon Lee and established too late in the process. Plank's performance in France was impress; the problems eventually experienced centered around the timing and quality of the transfer of authority to COMZ in August.

COMZ Is Overwhelmed When Committed to Combat in August and September

In his original concept for how transitions would occur, Lee assumed that FECZ would take over a zone to the rear of 1st Army at some point in July and then be replaced by COMZ at about the same time SHAEF took over from 21st AG. But Bradley delayed his designation of a rear boundary until 2 August, and the rationale behind some intermediate stage between ADSEC and COMZ control made less and less sense. Lee visited FECZ in France for the first time on 28

July, and the change in plans accelerated after that point. Vaughan was recalled to take over the U.K. Base Section in early August, and on 7 August Lee activated COMZ on the continent. After less than three weeks at Valognes, Lord supervised the displacement of the forward command post to Paris, phased in over a two-week period, where they were joined by the last elements of the SOS staff arriving from Cheltenham and London.

It is difficult to evaluate the efforts, much less the effectiveness, of the activities conducted by LTG Lee and COMZ during this time from the command's written records. The command did not seem to have a daily operations log or diary and did not leave behind orders or decision papers that could provide insight into command priorities. It is often easier to gain insight on what COMZ was doing by looking at records from SHAEF or 12th Army Group. But some clues are offered by the travel itineraries of Lee and Stratton, cables into and out of COMZ, notes from recurring meetings, and daily summaries submitted by each staff section. Lee's ability to influence events on the continent was complicated by the need to bounce back and forth between Cheltenham and Normandy throughout August.¹⁹

What the accessible written record does suggest is that COMZ remained aware of what was occurring in France and that the various chiefs of services played an active role in problem-solving in August and September. There are records that suggest the command was on top of combat shortages and losses and coordinated the delivery of replacement material from the U.S., U.K., and other theaters. The general staff at Cheltenham maintained functional lines of communication with the combat elements in France, other theaters, and departments and ministries in both Allied countries. SOS continued to manage the deployment system out of the

¹⁹ SOS C&S, 6 Aug 44. Lee informed the audience he would move to the continental headquarters the next day but return in a week for the next command and staff meeting. Lee continued to bounce back and forth between France and the UK for the next month.

U.K. while coordinating all the details associated with pulling supplies out of depots and loading them onto transportation for delivery to France. These sorts of tasks played to the strength of the ETOUSA/SOS staff and accounted for a good deal of their available time and energy between June and September. The tasks resembled what the command had done in support of Torch and Bolero for years. But the planning and synchronization of logistical support on the continent continued to be a vacuum COMZ was uncomfortable filling.

The key operational node for ETOUSA was the element collocated with SHAEF that fell under the direction of MG Lord, but any sort of records capturing the results of important meetings, decisions made, or the ongoing priorities of work are exceedingly difficult to find if they exist at all. Minutes exist for only three of the command and staff meetings hosted by Lord with his element in London in August. The records of the August meetings show that Lord and the SOS team in London had a lot on their plate. The meeting on 1 August was dominated by deployment planning. Seventy soldiers were due to depart on 7 August, followed by 300 a day beginning on 10 August.²⁰ Some personnel traveled by plane, while others went by ship, which typically required five or more days from departure to arrival at the final command post. The headquarters would eventually number 1,500 soldiers in France, and their coordination was complicated by the simultaneous deployment of Base Sections No. 2, quickly followed by No. 1, and the advanced headquarters for SHAEF.

The complexity associated with moving the headquarters consumed much of Lord's attention; this subsection of COMZ did not conduct another formal meeting until 11 August. The meeting was short, and it focused exclusively on redeployment and administrative issues in the U.K. The meeting on 18 August saw the first meaningful comments about the operational

²⁰ SOS/COMZ Command and Staff Notes, 1 Aug 44. RG 498, UD 578, Box 3883.

situation in France; Lord's response to an overview of the situation was direct: "I don't think we can be too happy about the logistical effort. We have to get the trains back again."²¹ COMZ was also confronted by three new significant distractions – turning over support in Britain to the new U.K. Base Section, complying with a directed ten per cent manpower reduction and bouncing the forward headquarters from Valognes to Paris as quickly as possible.²² The relative importance of these various missions cannot be gauged, but Lord opened the meeting talking about the manpower reduction, saving a review of the logistical situation in France for the last item on the agenda. Regardless how much he wanted to contribute to the solution, then, Lord was distracted with a number of other priorities in August and the first week of September.

Although they had a much larger range of responsibilities than just logistics in France, the main SOS headquarters at Cheltenham was engaged in supporting Overlord. Details of staff activities in July and August are difficult to find, but clues about major concerns exist. Through the end of August 1944, Lee received a daily summary from each of his staff sections, who outlined ongoing issues and recent decisions. Along with the transcript from the weekly command and staff meeting, these summaries provide some insight on the priorities of the organization at a decisive point in the campaign. Routine administrative comments far outnumbered weighty decisions from late July to the end of August, but the command was involved in sustaining the fight in France. The G-4 was aware of what types of supplies were

²¹ Ibid, 18 Aug 44.

²² The notes from the meeting indicated that this was Lord's decision, and it was something that took the staff by surprise. In his interview with Pogue for *The Supreme Command*, Lee confirmed that Lord made the decision how to displace from Normandy to Paris, and in hindsight the command might have benefitted by waiting an additional week. The interview was conducted on 21 March 1947 and the transcript is in Pogue's notes for *The Supreme Command* at AHEC. To provide some perspective on the transportation cost associated with this move, it required four truck companies to move the SOS from London and Cheltenham to the Southern Base Section for deployment to France. The shift from Normandy to Paris probably required the same resources, and it tied those trucks down for two to four days, depending on how many trips were required. See 14 Aug 44 daily report from COMZ G-4, RG 498, UD 389, Box 2573 and UD 578, Box 3887.

being delivered to the continent by emergency air transport, although they had nothing to do with actually selecting those items or establishing priorities for the combat zone. Just by sharing this information with the rest of the COMZ staff, the G-4 helped ensure that the technical services understood shortages as they emerged. This in turn helped COMZ and the special staff pinpoint where to watch the requisition and planning processes more carefully to determine why emergency shortages were developing in the first place. On 28 July air transportation moved about a ton of repair parts for various weapons, and on 31 July it was five tons of tank parts and an additional ton of signal equipment.²³ Somervell and Lutes would not have been surprised that one of the first minor breakdowns within the ETOUSA logistics system involved repair parts for guns and tracked vehicles.²⁴

COMZ was also involved in hunting down weapons that were in high demand on the continent, looking to transfer them from other theaters or draw them from local depots. On 23 August the command noted a problem with the quantity and quality of Allied tanks. Losses to that point in the campaign had averaged twenty percent, and the Allied tanks and guns had problems knocking out Panthers and Tigers at moderate to long range. Part of the British solution to this penetration problem was to ask COMZ for any extra 90mm anti-aircraft guns the U.S. might be willing to transfer. A few days later COMZ facilitated the movement of 76,000 rounds of excess 155 mm ammunition from the British inventory to 12th AG; in late August SHAEF asked Lee to coordinate the transfer of 300 60 mm mortars and 300,000 rounds of ammunition from the Middle East.²⁵ COMZ received indirect confirmation that, in general, the

²³ SOS daily staff summaries, 28 and 31 Jul 44. RG 498, UD 389, Box 2573 and UD 578, Box 3887.

²⁴ Lutes pointed out major concerns with ETOUSA's management of repair parts in his report at the end of his investigation of the command in May 1944. Repair parts was a problem area for the U.S. Army in every theater throughout the war.

²⁵ 25 August Daily Report from the G-4.

ammunition supply chain was working when on 19 August 12th AG asked to increase the theater reserve objectives up to seven units of fire at the army level with seven more in COMZ reserves, an increase of two units of fire. Included with the request was a confirmation that sufficient rounds existed on the continent to make this adjustment for all types of ammunition other than 81 mm and 155 mm.

In addition to managing weapons and ammunition, COMZ was also heavily involved in restoring units that had been depleted in combat, or had arrived from the United States with equipment shortages. The COMZ G1 and G4 spent a good amount of time managing the rebuilding of the 82nd and 101st and bringing the newly established 1st Allied Airborne Army up to strength. The pending arrival of the 94th and 95th Infantry Divisions also required special attention from the chain of command.²⁶

The COMZ element still working out of Cheltenham throughout August was aware of the major challenges faced by organizations in France, even if they did not have all of the details associated with the problems readily available. The engineers were worried about moving Bailey bridges and other heavy equipment to the continent on 13 August; the equipment already in France had been consumed with the rapid expansion of bridge repair since the breakout. On 19 August the G-4 outlined how the transportation crunch was starting to impact the theater, reporting how work on the POL pipelines had stopped because construction materials could not be shuttled to the engineers. No one at the headquarters was sure exactly how far the pipelines had been advanced, but they understood how important the capability was to maintaining the pursuit.²⁷ The section also reported that, because all of the heavy POL trucks had been

²⁶ SOS C&S, 13 Aug 44. RG 498, UD 578, ADM 458.

²⁷ SOS C&S, 13 Aug 44.

committed to supporting the armies, not enough aviation gasoline (avgas) was reaching 9th AF. The recommended solution was to ship it to the continent in 55-gallon drums and use standard trucks to deliver the barrels to the forward airfields. By the last week of August, it was obvious at COMZ headquarters that the anticipated transportation crunch had started to develop.²⁸ Littlejohn was working primarily on the continent by 20 August, and he brought up how the shortage of transportation was hampering his efforts to move supplies forward.²⁹ Fixing the rail lines would help. Progress was being made, but not quickly enough to satisfy the attendees at the weekly command and staff meeting. The intensified need for telephone poles and coal had come as nasty surprises.

Overwhelmed by the pending move to Paris and by their duties as the COMZ on the continent, the staff received permission to discontinue the daily report after 31 August. COMZ held its last command and staff meeting at Cheltenham on 3 September, turning over responsibility for coordination with the British ministries to Vaughan's U.K. Base Section that same day. The next set of notes for a command and staff meeting did not appear until 29 September. The daily staff summary stopped being of any help in revealing the priorities at COMZ at the beginning of September, and the month-long gap in transcripts from the command and staff obscured what the organization was working on for this critical period.

Ruppenthal's account of ETOUSA's performance in August and September supports the contention that at best COMZ was irrelevant in the effort to improve the flow of material to the

²⁸ Despite anticipating the problem with insufficient transportation, and recognizing its arrival, COMZ seemed incapable of making tough decisions in the allocation of transportation. During the COMZ command and staff meeting on 12 August Lee approved the shipment of 5,000 tons of beer and soda supplies a month to the continent for disbursement by the Army Exchange. The goal was to have soda and beer at the exchanges by 1 October. A minor issue when seen in isolation, this decision illustrated how COMZ seemed almost incapable of ruthlessly enforcing Spartan conditions in order to deliver only the essentials necessary to drive the Allied armies forward.

²⁹ SOS C&S, 20 Aug 44.

combat divisions. The first references to involvement in operational decision making by Lee, Stratton, or COMZ occurred in late August and early September. Lee and Stratton were present for the periodic huddles hosted by Bradley, and the meeting on 30 August was noted by Ruppenthal as a pivotal moment in the deterioration in the relationship between COMZ and 12th AG. Before and after this meeting Moses rejected in writing that Stratton would come through on the delivery figures he promised at the meeting; Moses went on to record his overall disappointment with COMZ's performance to date and shared that assessment with his deputy.³⁰ At this stage of the campaign Moses' major complaint was the contradiction between what the COMZ promised to deliver and what actually arrived at the front that was of any use.

A much nastier problem was brewing around the same time between VIII Corps and COMZ over the adequate provision of artillery ammunition for the siege of Brest. It was the first time COMZ was asked to provide better logistical support in order to overcome a major tactical problem holding up progress with the overall ground campaign. Coming so soon after Lee assumed control of the zone of communications, it exposed the flaws within the organization. It took almost three weeks to set up a system to routinely deliver artillery ammunition to VIII Corps that LTG Middleton considered sufficient to support his assault on Brest. In the process, COMZ learned that it did not have the systems in place to issue clear orders to base sections, acknowledge those orders had been received, and monitor completion of the directed task. Stratton promised ammunition that was not available on the continent, committed the transportation service to deliver an impossible quantity of supplies with the time provided to do so, and showed that the G-4 section could not synchronize the two base sections and OCOT to

³⁰ Ruppenthal, Vol. I, 491, note 12 and 13.

conduct a major logistical operation.³¹ At one point confusion and frustration reached a level at which LTC Edwin N. Clark, a liaison officer dispatched from SHAEF to try to solve the problem, radioed MG Lord and BG Stratton and asked: “What in the name of Pete is wrong with Com Zone?”³²

What was wrong was that this was the COMZ general staff’s first attempt to coordinate support involving two base sections and two technical services under combat conditions. Stratton made the mistake of assuming that, because he had ordered something, it would actually happen. He also believed the estimates provided by OCOT that outlined the tonnage that a combination of trains, LSTs, and trucks could move to Brest on the timeline directed. Finally, he believed the imprecise inventory records COMZ had inherited from ADSEC and FECZ, which in this case proved to be incorrect. Before the situation was resolved it had pulled in representatives from SHAEF, 12th AG, and 3rd Army to join the main players of COMZ, Brittany and Normandy Base Sections, and VIII Corps. In what seemed to be an overreaction, SHAEF G-4 pushed the issue relentlessly between 6 and 12 September, resulting in a flood of ammunition to VIII Corps that consumed precious transportation resources. By 12 September the corps had 13,000 tons of ammunition under its control, and more was on the way. By 18 September, after the capture of Brest, the corps had 25,000 tons of artillery ammunition in its local storage points.³³ This overreaction that tied down so much ammunition and transportation at the same time SHAEF was trying to break through German defenses in front of 1st and 3rd Army was probably more harmful than the initial breakdown in communication and supply in August. And all of this was for an objective that almost everyone realized was insignificant

³¹ Ruppenthal, Vol. I, 530-537.

³² Radio message, Clark to Lord and Stratton, 6 Sep 44, SHAEF G-3 O&E Ammo, in Ruppenthal, Vol. I, 534.

³³ Ruppenthal, Vol. I, 535.

above the most basic tactical level.³⁴ Near the end of this incident, LTC Leander H. Harrison, an officer from the 12th AG ordnance section, summed up why the situation had been such a mess. He mentioned insufficient planning by all agencies involved, a lack of coordination among the various supply nodes, absence of any follow up by COMZ, vastly inflated demands from VIII Corps, overoptimistic promises of deliveries by COMZ, and involvement by too many parties in trying to run the show.³⁵ This list of shortcomings at ETOUSA/COMZ and in two base sections is not surprising based on the experience levels of these organizations. It was unfortunate for the Allies that COMZ had been invested with so much authority with so little oversight and that the command was so woefully unprepared for any task that did not resemble the skill set perfected to run Bolero. SHAEF and COMZ learned from these mistakes, but in the process they missed key opportunities that presented themselves in August and September.

It had not taken Gale long to realize that Lee and his staff at COMZ were in over their heads as the pursuit picked up momentum near the end of August. At the same time 21st Army Group and the British War Office were discussing voluntarily cutting back imports to the continent by half, ETOUSA reported that they hoped to increase their discharge rate by 150% in September. These projections drove Gale to send a message to Lee asking him to explain how he hoped to unload 45,000 tons a day and 112,000 personnel by the end of September when the U.S. Army had struggled to reach 30,000 tons a day in August.³⁶ Concern over COMZ was not restricted to Gale and the professional logisticians. On 6 September at his daily meeting at SHAEF “The CoS [Smith] expressed himself forcibly...on the general administrative set up,

³⁴ Ruppenthal, Vol. I, 535. Ruppenthal suggests that some of the early friction within COMZ was caused by their realization that Brest was an unnecessary diversion that would consume resources without providing a return. See chapter five of this study for details on the discussion of the Brittany Ports occurring at SHAEF and ETOUSA.

³⁵ Memo, Harrison for Nisley, 10 Sep 44, in Ruppenthal, Vol. I, 537.

³⁶ Gale to Lee, 28 Aug 44, Gale Papers, I/3, Secretary/CAO/5, File No. 2, 1 Aug 44 – 15 Jan 45, Liddell Hart Center, King’s College.

especially on the U.S. side. He has the same views as I [Gale] have and seems unable to effect any change in the set up. As a result it looks to me as if we shall get more control of the C.Z. which is badly in need of it.”³⁷ As supply problems slowed and then ended the pursuit, knowing that Eisenhower was not interested in firing Lee or reorganizing ETOUSA, Smith and Gale realized the only remaining solution was to exert more direct control over the execution of theater logistics.

There was a strange and short-lived interlude from around 12 to 18 September where Bradley and Lee managed to convince SHAEF that the U.S. supply situation was not as bad as suspected, and was on the rapid mend. As a result, Smith passed along this assessment of the overall U.S. logistics situation to Montgomery on 15 September:

Hodges Army has sufficient reserve of petrol to take it to the Rhine and it has enough ammunition for 5 days of fighting. Patton’s Army has enough petrol to establish it across the Moselle and enough reserve ammunition for from 3 to 4 days fighting. Truck supply on a basis of 500 tons per day was scheduled to start this morning to 21 AG as per our conversation. In addition, SPAATZ bombers are going to be able to airlift about 1,000 tons per day, principally petrol and ammunition, of which about 500 tons will go into 21 AG Area....On the whole our supply situation is now healthy and will improve daily.³⁸

Doubtlessly Smith believed this to be true, and Bradley and Lee were the most likely sources of this information, which was completely inaccurate in almost every detail.

Gale, already suspicious, continued to probe below the surface of COMZ’s reports for the truth. Gale, frustrated with his lack of progress in reducing the backlog of ships awaiting discharge, wrote in his diary on 16 September that the problem was “unfixable, despite his repeated efforts to work through the issues, and a string of promises that a solution was just

³⁷ Gale’s Official Diary, 6 Sep 44.

³⁸ Smith to Montgomery, 15 Sep 44, Gale Papers, I/5, Cables Received and Dispatched, Liddell Hart Center, King’s College.

around the corner emanating from ETOUSA. Three days later Gale recorded that he “Saw Eisenhower and talked to him about COMZ and its capabilities. He does not appear inclined to exert any more control over Lee and let us hope the fact that we are going to have our HQ near his will make things easier.”³⁹ On the 22nd Gale huddled with Crawford, Bond, and Whipple, trying to iron out a comprehensive assessment of the theater logistics situation before taking his appraisal to Eisenhower. The group consensus was that sporadic delivery of fuel continued to be the critical issue for Bradley, and that SHAEF did not have enough reliable information about supplies on which to base its recommendations to the commander. COMZ was either keeping secrets, was oblivious themselves, or a combination of the two.⁴⁰ By 4 October this suspicion had hardened into a conclusion; Gale and Crawford told Eisenhower that all the numbers provided by ETOUSA never added up – subjected to any real scrutiny, they tended to collapse – calling into question all the data about what had been moved and delivered to the various front-line units. SHAEF was planning in the dark, and it seemed that the only way to get better data was to take over management of the communications zone themselves.

This timing associated with this loss in confidence in COMZ’s capabilities by the senior leaders at SHAEF was unfortunate. The first five weeks of work on the continent were hard on COMZ, but the organization began to get a grip on things once the entire staff was consolidated in Paris by mid-September. By 29 September Lee was comfortable enough that the supply crisis had passed to call for the first full-scale COMZ command and staff meeting to be held on the continent. The meeting was held in Paris, with Lee, Lord, and Stratton present at the event.⁴¹

³⁹ Gale Official Diary, 19 Sep 44.

⁴⁰ Gale Official Diary, 22 Sep 44.

⁴¹ COMZ C&S, 29 Sep 44. Transcripts for the SOS weekly command and staff meeting can be found in at least three separate locations in RG 498, none of which include any record of a meeting between 3 and 29 September. It is possible that a full command and staff meeting occurred during this gap and the notes were misplaced.

Larkin, now acting as the commander of the Southern LoC (SOLOC) supporting Devers' 6th Army Group, had flown up from southern France, and Plank represented the ADSEC. The difference in the tone of the transcripts between early and late September is remarkable. The conversation was dominated by logistical concerns that were emerging from ongoing operations. The chief of engineers talked about finding and moving construction material to extend the POL pipelines as his primary concern. The ordnance representative confirmed that he was aware of and working to fix the shortage of tires and tanks engines, and to improve repair work in the field in general. Obviously, complaints from the combat zone had reached Lee, who asked the team to ensure that they were not shipping uncalled for items to the front. For the first time ever, most of the discussion at Lee's command and staff meeting focused on operational issues, and the staff demonstrated that they were aware of problems impacting the fighters and was taking actions designed to solve those problems. By early October COMZ seemed to have turned the corner and had begun to function as an experienced and combat-focused command. Unfortunately for Lee, this development occurred too late to hold off SHAEF's assumption of many of the critical functions originally reserved for COMZ.

Insights from the General Board Reports on Sustainment in ETOUSA

Obviously the COMZ staff learned in the crucible of combat, and they demonstrated increased proficiency through the fall of 1944. SHAEF and 12th AG had dismissed COMZ as irrelevant or obstructionists in September and October, an assessment reinforced by Stratton's poor support of VIII Corps during the siege of Brest. And yet by late October COMZ thought that the theater supply and transportation system was in great shape. In November COMZ managed to bury the armies under a mountain of supplies while shifting all the material left

behind in Normandy to appropriate storage locations and beginning to amass reserves in the ADSEC zone. External inspection teams led by Lutes and Somervell gave COMZ a moderate level of validation in December and January, although they were pressed to fix a few issues that had challenged the command since its inception. This time SHAEF ruthlessly tracked ETOUSA's work until the problems were fixed. By the end of the war COMZ believed it had improved its performance as much as possible, although there might still have been a few areas of logistical support that would have benefited from changes to organization and procedures that were beyond Lee's control to implement.

The General Board process, launched by Eisenhower in the late summer of 1945, provided an opportunity for ETOUSA to assess their performance, identify what got fixed, when, and how, and what changes needed to occur across the Army to institutionalize these improvements. Ross, Littlejohn, and Lord were faced by a delicate task when Lee solicited their input on the topics that should be addressed in the reports COMZ would prepare. It would be important to capture important tasks and skills that COMZ and ETOUSA had struggled to get right and to address problem areas that the command was still struggling with at the end of the war. But if Lee's subordinates tried to tackle any major procedural shortfalls with COMZ, such criticism would immediately reflect poorly on Lee's leadership. It might also call into question decisions taken by SHAEF and the ASF, or even the War Department. Big problems were likely to track back to big mistakes, which might lead one to conclude that the War Department and SHAEF had failed to properly prepare for or to react to logistical challenges on the continent. Confronting such ugly truths out in the open would be a critical test of the professionalism of the U.S. Army, a test USFET seemingly decided to avoid.

There were a number of similarities in the topics recommended for review by Ross and Lord.⁴² Lord tended to focus on the big picture of theater and COMZ organization and ETOUSA's interaction with all service troops and sections, while Ross was more concerned with the details within transportation. But both officers recommended thorough reviews of six common topics. Many items on the two lists suggested that the theater had dropped the ball in their efforts to be ready to perform the right tasks before the start of the campaign and, even worse, that solutions had not been universally implemented before the war's end. The topics included depot management, air transport and resupply, maintenance systems, the supply requisition process, the best configuration of the Transportation Service, and an evaluation of the service troop basis. In some cases, Ross and Lord realized that ETOUSA had developed excellent organizations and procedures that needed to be comprehensively captured for inclusion in doctrine and education curricula, but in other cases the causes of friction lay beyond theater logisticians' control and would have to be forwarded to more senior officers to fix at their level.

Ross's submission provided a bit more detail for each suggested topic, outlining the key aspects of the subject on which his six-man team should focus their research and writing.⁴³ Ross thought his team had mastered about half a dozen complex processes that deserved to be meticulously studied for the lessons, procedures, organizational diagrams, and manning documents they would yield to future doctrine and education. The developments that needed to be captured included the decision to centralize the integration of rail, motor, water, and air transport under OCOT control; the establishment of TC sections at the army group and army

⁴² Reply from Ross to Lee, 11 Aug 45. Response from Lord to Lee, 17 Aug 45. RG 498, UD 1089, Box 5122.

⁴³ Ross to Lee, 11 Aug 45. RG 498, UD 1089, Box 5122. Attached to Ross's overview was a seventeen-page outline introducing each topic, its critical components, and guidance on specific aspects he wanted his writing team to tackle. Ross also identified by name the six-man team he was allocating to the project, which would be led by now COL Ayers.

level with LNOs down to the division level; ETOUSA's management of air transport at the end of the war; highway/traffic control and centralized management of motor transport assets; and documentation associated with getting supplies to the correct destination. These were all areas that Ross implied had been fixed, or sufficiently developed by the end of the war to standardize and consider for Army-wide implementation.

But a few areas had not been adequately addressed by the end of the war and required further study and refinement. Lord recognized the importance of synchronizing and integrating joint logistics, projecting the need for more cooperation in the future and asserting that there had been too much autonomy and inefficiency between Army, Army Air Force, and Navy sustainment efforts in the ETO. Problems with maintaining vehicles once they were in the field had never been solved. The solution would require improved operator training, having enough repair specialists at the division level and above, but, most critically, figuring out how to stock, manage, and requisition repair parts across the theater. Spares was one example of the problem with stock control that had plagued the theater since the fall of 1942. Because so many services and branches were involved in running their own depots, Lee could never standardize their operating and reporting procedures. Even under relatively static conditions in the UK or on the continent, the base sections and SOS could never consolidate a clear picture of what items were available where. Once the complexity associated with mobile combat operations, transfer of depots from one organization to another, and a theater-wide transportation network that received and distributed thousands of tons of supplies daily was introduced, the task became impossible. Nothing short of a revolution in communications technology or a much greater comfort level with redundant safety valves and emergency stocks located with forward units could fix this problem.

Littlejohn, Ross, and Moses all understood and stressed the importance of capturing ETOUSA's practical experience in the next updates to U.S. doctrine, professional education programs, and training. Ross specifically mentioned a series of FMs, TMs, regulations, and theater SOPs should be referenced when writing future doctrine. Ross knew (but could not openly say) that QM truck units had problems with their manning, equipment, and training, and he wanted to conduct a complete study of the same issues across the entire force structure of the Transportation Corps. Lord and Ross realized that doctrine had been a major cause of the problems in the theater requisition system and required a top-to-bottom review and overhaul. ETOUSA had learned the hard way that the system had to project requirements out across a 90-day window, account for limitations to communications methodology under certain combat conditions, reconcile time and procedures to validate and prioritize requirements against means of transportation, and control the process by which transportation was directed to pick and deliver supplies from one location to the final destination. Both leaders understood and addressed the added complexity introduced by the need to coordinate with the War Department and other theaters to justify medium- and long-range requirements and to manage local surpluses and shortages. Ross and Lord stressed that official guidance had to account for how long these steps took. Realistic systems also had to account for the limits to communication imposed during mobile operations, uncertainty introduced by combat conditions and human frailty, and the importance of lateral and horizontal staff coordination in this process.

Not mentioned in the discussion of topics that should be taken up by the General Board was the division of authority between a regional general staff and the technical service sections. By May 1945 the special staff at ETOUSA had largely won out over their general staff counterparts at COMZ. Somervell's initiative to pull the services under his tight control within

the ASF did not survive the immediate aftermath of the war, just as the ETOUSA special staff had reemerged as the key players in synchronizing logistical support for the field armies with very little direct supervision by COMZ. SHAEF, the ETOUSA special staff, base sections, and 12th AG/ADSEC emerged as the dominant forces in planning and synchronizing logistical support. ETOUSA/COMZ had learned what their unique role was in coordinating sustainment at the theater level, but that role was very different from the one espoused by Lee and Somervell during the first two-a-half years of the war.

Lord understood this was an important topic and recommended it to the General Board, but he had nothing original to add to the system that had already been tried in the U.K. during the first half of Devers' time in command of ETOUSA. Lord had adopted the argument that the supreme commander needed two deputy commanders -- one for operations, one for administration. Lord chose not to address how this U.S. structure would mesh with a joint-combined headquarters served by component commands. Finally, Lord acknowledged that highly mobile operations such as the pursuit after Cobra and the overrunning of Nazi Germany in spring 1945 required special management. Under these conditions, combat units needed to have more say over priorities and control over service units. In general, the COMZ needed the ability to emphasize decentralized operations in some areas under special conditions without generating a free-for-all at the theater level. How exactly to pull this off Lord left to the General Board.

Problems at ETOUSA/COMZ G-4

We have seen how ETOUSA/COMZ struggled to prepare for operations in France and then for the challenges the command faced while trying control logistical support to the armies during its first two months on the continent. Overarching problems with COMZ command and control were suggested by dissatisfaction at 12th AG and SHAEF and by the critical self-

assessment that emerged from within ETOUSA at the end of the war. The two most important general staff sections within SOS and COMZ were the G-1 and G-4. The G-1 supervised the special staff sections associated with technical support to individuals, provision of manpower to the command, and the health and morale of assigned soldiers. It was a difficult job, but in general, few faulted COMZ for the quality of support it provided to the individual soldier. Adequate provision of replacements was a problem area, but is not a focus for this work. The G-3, normally the most important and powerful general staff section in a combat formation, had a much-reduced roll at ETOUSA and then COMZ, which we will examine in more detail below.

In COMZ, the G-4 displaced the G-3 as the nerve center of the command. Lord, followed by Stratton in November 1943, controlled the most important general staff section in the organization. Lee expected his G-4 to supervise and coordinate the half of the special staff that managed its own stock of supplies and equipment, built and maintained the various methods of bulk distribution, and provided direct logistical support to the combat forces. This included the theater engineer, chief of medical services, ordnance, transportation, quartermaster, chemical warfare section, and signal section. G-3 assigned service units to the armies and base sections, but the G-4 translated missions and projects into the specific number of units to be allocated, and it recommended what work got cut or delayed when there were not enough troops to go around. Each service was supposed to figure out what it needed to stock, where to store these materials throughout the depth of the communications zone, and how to employ its forces to accomplish the dozens of missions assigned, but only the G-4 could synchronize these disparate efforts, or delegate responsibility for coordination to a base section or ad hoc combined-service command. ETOUSA could cooperate, both internally and externally, and attempt to get the job done, but only the G-4, acting on behalf of the commander, could order the execution of support activities

and decide who received resources and who went without. Finally, the G-4 had the final say on what operations were considered logistically feasible and what the ETOUSA/COMZ position was on logistical priorities and requirements to ASF, the War Department, and SHAEF. It was a massive amount of responsibility for a small section headed by a man who had joined the SOS seven months before the start of Overlord wearing the rank of a colonel. It was a difficult enough job when Stratton was only the SOS G-4, but the job became even more difficult after the merger with ETOUSA in mid-January. It did not help matters that none of the senior officers within the ETOUSA/SOS G-4 had any meaningful combat experience in a senior logistics command prior to August 1944.

There were strong indicators that the ETOUSA G-4 struggled to adjust to their new role immediately after the merger with the SOS. Stratton stepped up to fill the position, one that had been empty since Crawford's transfer to COSSAC and then to SHAEF back in the late fall. Initially the section tried to take charge of operational planning for Overlord, publishing a planning directive on 7 February 1944 laying out a vision of how to tackle the numerous functions COMZ would have to master.⁴⁴ The document provided a tentative troop flow to the continent, covering the period from D-Day to D-plus-270 in 30-day increments broken down between the three major subordinate commands and divided between the U.K. and the continent. It included bulk daily tonnage estimates in 30-day increments starting on D-plus-90 and running through D-plus-270 and eventually added phase line projections on a map of France for the same time period.⁴⁵ This planning directive was primarily concerned with new installation requirements once on the continent, but it also asked the engineers to address new railroad and

⁴⁴ COL Whipple, "ETO Planning Directive A-2", 7 Feb 44. RG 498, UD 346 (ETOUSA G-4 Operational Planning), Box 1489.

⁴⁵ Planning Directive Series H-2, 24 May 44. This document updated A-2, pushed projections out to D+360, and included the latest phase-line estimates from SHAEF.

POL construction. The directive provided three pages of questions for the technical services and other general staff sections to focus their research, asking they feed the results back to the G-4. The surgeon, quartermaster, ordnance, and engineer sections were asked specific questions while all the other technical services were asked four generic questions about hardstand, covered, and uncovered depot requirements and shop installations.



Figure 6.2: SHAEF projected force disposition at D+120⁴⁶

Planning Directive A-1 was not preserved in the ETOUSA G-4 records, so there is no way to gauge what topics it addressed or the quality of the product. A-2 is underwhelming. The document seemed to reduce the complexity of running a communications zone stretching from Cherbourg to the Seine to a matter of building installations and linking them with some new

⁴⁶ “ETO Planning Directive A-2”, 7 Feb 44.

railroads and a POL pipeline. There were no specific questions whatsoever for the transportation section, and the questions uniquely called out for the surgeon, ordnance, quartermaster, and engineer sections added no clarity or insight beyond the four generic questions that headed the document. Physical locations for command and control nodes and coordination centers were not addressed – who would select and resource these sites was not covered. This was one task that the SOS was uniquely qualified to tackle that would give useful information for everyone, but it remained unidentified. The author also made the rookie mistake of assuming that everyone could make these decisions and recommendations in a vacuum, without coordination with the field forces and air component, divorced from any projection of the state of the transportation network and service troop basis, and in isolation rather than during a collaborative and iterative process led by a key player on the SOS/ETOUSA staff.

Planning directive A-2 was an admirable attempt to kick off operational planning at the ETOUSA level, and achieving something now is always better than waiting for the perfect product at some undetermined future date. But the flaws in the document demonstrated just how little serious work had been done prior to its publication and how far the key players needed to develop before they understood what was difficult and therefore important to plan. Based solely on the questions listed in this directive, Whipple understood neither the critical functions each service needed to provide nor how ETOUSA/COMZ might synchronize those areas in which half a dozen agencies needed to interact in order to accomplish the mission. This was not a question of professional competence – COL Whipple would move over to SHAEF G-4 plans a few days after the publication of Planning Directive A-2 and would excel in that job once he was surrounded by experienced and operationally focused teammates. It did illuminate the inexperience within the ETOUSA G-4 with theater sustainment planning, and it showed their

overemphasis on service-specific installations at the expense of nodes where three or four services needed to coordinate their activities. It also illustrated the fact that SOS had no idea how to supervise and manage these interactions. It was a good, if late, start that would need to be vigorously refined in the coming months.

But early February also saw the creation of the ADSEC and FECZ, which were soon busy developing the plan for logistical support during the first 90 days of Overlord. Comfortable with the fact that ADSEC and FECZ were working on the problem, ETOUSA G-4 turned their focus to other priorities. SHAEF started detailed staff assessment on what would follow Overlord in mid-March, which quickly pulled them into the work completed earlier by COSSAC and ETOUSA, and the process just kicking off at ADSEC and FECZ. The final result of this staff work on operational logistics between March and May was the FECZ COMZ plan published on 14 May. The core of document was largely produced by the ADSEC staff and then fleshed out by FECZ and the special staff at ETOUSA. It was a thorough, professional, and well-written document that covered every aspect of administrative support the team could imagine might be needed, but it had been developed with very little input from the general staff at SOS. The document reinforced a vision of logistics as stove piped activity by technical branches, base sections, and service units attached to field armies. What was missing was a concept for how COMZ would orchestrate this system and how information would flow to and from COMZ to determine critical requirements and to validate the delivery of supplies. Also missing was any intent to drive meaningful conversation among the various elements of ETOUSA and between ETOUSA and SHAEF to balance operational objectives with logistical capabilities to achieve them. The 14 May COMZ plan was a great document to drive sustainment in the U.K., but it did not anticipate new actions that would be critical in France, and

thus it did not establish procedures to accomplish those actions. Greater involvement by the ETOUSA general staff in the planning process would not have guaranteed a better published plan, but it would have ensured that the G-4 knew what the plan was.

The official history of the ETOUSA G-4 captures how woefully unprepared Stratton's organization was to help plan and synchronize sustainment for Overlord. The section was improperly organized to put the right level of attention on critical tasks that only the G-4 could solve, and thus the organization and division of labor within the section changed constantly during its first year of existence.⁴⁷ The system that Lee, Lord, and Stratton wanted to use to control the requisition and delivery of supplies was impossible to implement under combat conditions, and thus it failed and was radically overhauled between August and October 1944. Finally, detailed planning and execution on the continent exposed the discrepancy between what ETOUSA claimed it was responsible for and what the headquarters could competently handle and produce. Almost immediately ETOUSA surrendered their authority to lead sustainment planning for campaigns to 21st Army Group and then to SHAEF, and later the COMZ staff stopped trying to supervise task execution, a function better handled by the theater special staff and the base commands. The realization that the most important staff section within the COMZ could not do the job it had fought so hard to retain happened at the worst possible time, directly contributing to the Allies stopping short of the German western defenses.

ETOUSA G-4 published their first memorandum outlining their internal structure on 28 February 1944. This document addressed the recent changes in the relationship with SHAEF and the organizational consolidation with the SOS. The document listed the three primary

⁴⁷ In military terms, these were the wire diagram and summary of duties and responsibilities for each division, branch, and section. The wire diagram depicts the sub-division of the organization into a number of every smaller functional agencies. The duties, responsibilities, and assets available to each of these elements are listed.

functions of the section: supply, transportation, and evacuation. In principle it acknowledged the administrative and operational mission of the organization, emphasizing the requirement to provide “advice as to the extent of the administrative support that can be given for any proposed strategic or tactical line of action and evacuation....supervision of admin planning of operations, the development of those details of the admin plan which pertain to his functions, the preparation of the necessary orders and the supervision of their execution.”⁴⁸ The SOP described a staff section that could plan and execute campaign and theater-level sustainment in keeping with Somervell’s and Lee’s vision of the proper role of a theater SOS.

Determining the initial internal structure that the ETOUSA G-4 adopted in order to accomplish Lee’s vision and the associated functions from its organic history is difficult. It quickly becomes apparent that the authors were confused about the organization and function of the section, largely because of imprecise language within official documentation, near constant changes over the first year of the existence of the merged ETOUSA and SOS G-4, and the disparity between how ETOUSA wanted things to run compared with how they actually functioned during planning for and execution of Overlord.

The G-4 section seemingly used imprecise language when describing divisions, branches, and sections, adding to the potential for confusion by referring to major sub-units within the G-3 section as branches, whereas SHAEF and NATOUSA called them divisions. The SOP implied that the G-4 consisted of two major divisions, but then really explained only the structure and responsibilities of the supply and evacuation division. Over time, the second operational division was alternatively referred to as the plans, installations and communications, or plant and

⁴⁸ “History of the G-4 Organization.” RG 498, UD 578, ADM 553C. Large portions of the 28 Feb 44 memo are reproduced in the first eight pages of the history.

communications division.⁴⁹ More important than any internal and external confusion about who was responsible for what, the ETOUSA G-4 tried to take on a number of functions that clearly belonged to the special staff sections, all the while not addressing exactly how the components of the tasks were to be divided or coordinated.

| Branch | Role | Aligned Special Staff |
|--------------------------|--|--|
| Equipment and Maint. | Maintenance systems and facilities, new equipment requirements, and salvage operations | ORD / QM |
| Installations | Selection, construction, and maintenance of facilities | ENG/QM/TC |
| Movements | Functions of OCOT minus motor transport | TC |
| Service Troops | | G-3 / All |
| Storage and Distribution | Depot, requisition, and dispatching procedures | QM |
| Supply Requirements | Determine, coordinate, and procure requirements, shipping priorities and tonnage allocations, recommend supply levels, oversee stock control, and manage intra-theater priorities. | Other G-4 branches and all services / branches |

Table 6.3: ETOUSA G-4 supply and evacuation division branches, Feb 44

The division of labor shown in the table above shows a system almost purpose-built to introduce friction among the G-4's branches, the COMZ staff, and the ETOUSA special staff. Already hard enough, this task was complicated by the additional challenge of trying to synchronize a staff working in three locations. By March ETOUSA occupied three footprints, each with its own general and special staff: the SOS main headquarters at Cheltenham, ETOUSA

⁴⁹ Ibid, 11, 17. These two divisions largely corresponded to the Cheltenham and London wings of SOS/ETOUSA headquarters. Cheltenham was the heart of supply and evacuation, while London controlled planning and communications.

in London, and the FECZ in a second location in London. FECZ faced the additional burden of coordinating with 21st AG/FUSAG across town (until they moved to Portsmouth in May) and the ADSEC/FUSA located in Bristol. Lee attempted to simplify the division of labor among these three command nodes by making Cheltenham responsible for coordination with the War Department and supervision of the base sections in the U.K.; making his team in London the primary interface with SHAEF, charged with oversight of future operations on the continent; and assigning the FECZ to supervise the ADSEC and to synchronize near-term operational logistics planning.⁵⁰ In reality ADSEC and FECZ did all the operational planning while the staff in Cheltenham and London were consumed with final preparations for the invasion.

By carefully studying the evolution of the internal structure of the ETOUSA G-4 from August 1944 to February 1945, one can see what role the section eventually decided would be their unique contribution to the logistics effort. It provided a map to the functions that experience suggested only the G-4 could fill, and it charted the move away from those areas that properly belonged to the technical sections, SHAEF, or the army groups. This final structure was not right or wrong; it was just the approach that seemed to have worked best in Europe during the last seven months of the war. In its final form ETOUSA G-4 incorporated elements from how NATOUSA, Larkin's SOS and Southern Line of Communications (SOLOC), and AFHQ organized and ran their logistics staffs. In many ways the original organizational model for the ETOUSA G-4 was progressive and ahead of its time, but Lee and Stratton could not turn their vision of a highly centralized synchronizing agency into reality on the continent. SOS did not have the operational experience, senior officers, and communications technology to run COMZ the way Lee and Somervell believed would produce the best results. The result was a

⁵⁰ Ibid, 10.

steady progression towards structure and function that had more in common with NATOUSA than the set up at the ASF or a smoothly functioning base section.

| Branches | Sections / Role |
|--|--|
| Supply Requirements | Supply, shipping requirements, solid fuels, movement - eliminated Jan 45 |
| Equipment of Troops | Finalize equipping of newly arrived (primarily combat) formations |
| Storage | Depot planning and ops, analysis, supply movements, packing and marking, stock control |
| Equipment Disposal and Local Procurement | Policy, scrap/salvage, captured enemy equipment, excess and surplus property |
| Civil Affairs | |
| Troops | Troop basis, movements and ships, evacuation, POW and labor, troop assignments |
| POL | Distribution and plans, supply requirements, statistics |
| Port, Roads, and Railroads | Roads and railroads, ports and canals, planning and control group. This was about constructing and maintaining distribution networks, not managing them. |
| Installations and Signal Communications | Accommodations, real estate, hospitalization, construction, and signal communications and utilities) |
| Plans | |
| Maintenance | Equipment maintenance, repair, and spare parts management. |

Table 6.4: ETOUSA G-4 internal organization by winter 44/45

What jumps out is the radical change in branch and section structure between February and November 1944. It is obvious that ETOUSA G-4 had figured out how to avoid stepping on the toes of competent subordinates and peers, what SHAEF was going to handle on their own, and the big problems that the command was uniquely situated to address. Consolidating information, establishing policy, and supervising its enforcement displaced the earlier emphasis on synchronizing service forces and integrating logistics with maneuver. There remained a few

gaps and areas of overlap with the technical services, but these would be addressed in the final reorganization triggered by the consolidation of COMZ with SOLOC in February 1945.

ETOUSA G-4's Search for Solutions

Obviously, the changes in the structure and process within the ETOUSA G-4 between February and late fall were driven by the discovery of shortcomings in their ability to execute the sustainment mission in France and by the consequent search for solutions. Officers from the storage branch conducted a staff visit to Normandy in July and found that the ADSEC was struggling to do their job. The inspection team found "...too many storage installations and too-scattered installations, with no cohesion in the storage plans."⁵¹ There were logical reasons, many beyond the control of the ADSEC, why this was the case. More importantly, however, the ETOUSA G-4 was progressively learning how they could add value to the Allied efforts in France. From August to October the storage branch realized that they had to exert more positive control from the moment supplies were unloaded from ships onto the docks.

Despite the lessons and solutions implemented after the loadout for Torch, the SOS had slipped back into bad habits in marking cargo and filling out manifests. Various factors "impeded attempts to create a smooth flowing supply pipeline. These resulted largely from the failure to [enforce]...all...SOP's and other regulations relative to the requisitioning and movement of supplies."⁵² It did not help when the SOPs were discovered to be a part of the problem. In mid-August, the COMZ learned and pointed out that the army regulating stations and ADSEC were not following ETOUSA SOPs 7 and 33, and a lively discussion ensued. Upon

⁵¹ Ibid, 14.

⁵² Section IV, 72.

further examination it was agreed that 12th Army – not the regulating stations and ADSEC – needed to prioritize requirements and deliveries, and the COMZ agreed to modify and republish the two SOPs.⁵³ In addition to theater instructions that had been outdated by organizational developments, there were too many small depots scattered across Normandy. Training deficiencies combined with a lack of oversight by the chain of command resulted in wildly different procedures and paperwork across these facilities; some depots would only receive or disperse supplies between 0800 and 1700 each day.⁵⁴ If trucks arrived before or after these business hours, they sat and waited until the depots resumed external work.

Improperly marked boxes and the desire to clear the ports quickly compounded the problems at these depots. In the rush to clear supplies out of the immediate area of the port and squeeze every ounce of capability from transportation assets, items were scrambled up by administering service, class of supply, and intended destination. Misplaced cargo from other services ended up in the wrong depots, poorly labeled, lost from theater inventories, and mixed in with material that was supposed to be handled by that unit. The ADSEC and then the Normandy Base Section were overwhelmed just unloading ships and then forwarding supplies to the armies and did not have the personnel or facilities to establish sorting sheds and relabel all these containers, and there were no intermediate depots that could pick up the slack. Under these conditions, it dawned on the storage branch and transportation service that they could provide a critical service by ensuring that supplies were never scrambled up at the docks or in the loading of trucks and trains.

⁵³ Section IV, 74.

⁵⁴ Ibid, 74.

The branch tackled the problem from two directions. The first priority was to reestablish discipline within the marking and documentation system. Next, the branch hammered home the importance of transportation and storage by commodity type. Within each service, it was important to try to separate boxes by class of supply. More importantly, the items managed by each service needed to remain physically separated at the dock, in trucks and rail cars, and in separate areas within each depot.⁵⁵ ETOUSA put pressure on the base section staffs to supervise the unloading of ships with a team with a small number of members from each technical service to ensure that items were not mixed up during the process. This might result in partially filled trucks or cars, thus wasting transportation tonnage, but it also drastically improved ETOUSA's understanding of what was where within the theater and cut down on unnecessary and unrequested deliveries to the combat area.⁵⁶ The real art in turning this realization into changed behavior was getting the word out to subordinate leaders, retraining tens of thousands of service troops running the system, and figuring out how to spot-check such a massive undertaking and feed course corrections back into the chain of command.

In the course of this reorientation, it dawned on the storage branch that their critical partner was the plans division in order to influence the selection of sites for depots and to meter the flow of supply by service and class.⁵⁷ Later in the campaign, when the Americans were using more major ports than just Cherbourg, the branch realized that it needed to coordinate closely with the transportation office to gauge this traffic through specific port of entry and then

⁵⁵ "History of ETOUSA G4: Section II", 34.

⁵⁶ "History of ETOUSA G4: Section IV: Supply Systems and Procedures", 77. RG 498, UD 578, Box 3931, ADM 553A &B. In order to clear out storage space in Normandy and top off trucks and trains, service personnel loaded unmarked or unrequested boxes and sent them off to the armies. This caused extreme frustration at the front in September and October, when the armies were only receiving a portion of the tonnage needed to sustain operations and a large portion of that tonnage consisted of items that had not been asked for and were considered frivolous at the time.

⁵⁷ *Ibid*, 14.

forward the shipments to their final locations using the most appropriate line of communication. Because the G-4 had not practiced these skills in the United Kingdom, or anticipated them based on operations in NATOUSA, it took three or four months to implement an effective system.

The plans branch under COL H. Hansen, aligned under the newly renamed plants (an engineering term that referred to facilities and bases) and communications division, discovered that it initially had very little to do beyond collecting the host of component plans that were originating in the technical services and base sections and emanating from SHAEF and then ensuring that they were all consistent and cross-pollinated. Eventually Hansen gravitated towards focusing on procedures to rationalize and explain the function of the various COMZ sections, post-hostility planning, helping SHAEF validate and resource outline plans in support of future tactical operations, and the reception and staging of newly arrived troops.⁵⁸ The plants and communications division was also given supervisory authority over the POL branch charged with coordinating the movement of bulk supplies to the continent. This included supervision over POL pipeline construction and distribution of bulk fuels by rail and truck. It was a short-lived decision. By early November ETOUSA was beginning to figure out what was and was not in their lane, and the various aspects of POL distribution were shifted over to the theater quartermaster, the military pipeline service, and the transportation corps.

Conflict Between ETOUSA G-4 and the OCOT

The short experiment with managing bulk POL delivery to France was part of an overall trend that saw the G-4 try to come to grips with their role in coordinating the

⁵⁸ Ibid, 18-21.

various means of transportation on the continent. The official history of ETOUSA G-4 noted that “Immediately after the arrival of the HQ on the Continent, Supply Requirements was faced for the first time with the problem of priorities for movement by road and rail....To meet this problem, the section...was redesignated the Supply Requirements and Movements Section.”⁵⁹ At some point in September or October this branch was split in two when a separate movements branch was created and aligned under plant and communications division. This was an odd development that ETOUSA would rescind a few weeks later. The Office of the Chief of Transportation (OCOT) had handled this responsibility in the U.K., and why the G-4 wanted to add this mission to their portfolio rather than rely on Ross and his team was not adequately addressed in the official history of the section. Stratton did admit that he was frustrated with the OCOT because of the unreliability of their periodic transportation estimates, which made it difficult to maintain the trust of the combat units. Stratton realized that they used projections as a motivational tool, and he admitted that they were following the example and guidance of Somervell in doing so.⁶⁰ Since OCOT could never achieve the haul capacity and discharge rates that they had projected for the next two-week cycle, Stratton was inadvertently overpromising deliveries to the armies. Stratton eventually learned to reduce the estimates provided by OCOT by a certain percentage in order to arrive at more realistic numbers. This was not why the G-4 tried to take over the functions of the transportation service, but it illustrates one source of friction between the two sections.

⁵⁹ Ibid, 13.

⁶⁰ Section II, 44.

In November the ETOUSA G-4 Movements Branch was absorbed by the Ports, Roads, and Railroads Branch. ETOUSA's involvement with transportation had evolved from a focus on operational integration of the various nodes and networks, replicating the function of the OCOT, towards a focus on transportation infrastructure repair and expansion. After November, the Ports, Roads, and Railroads Branch oriented its efforts on developing, expanding, and maintaining bridges, ferries, tunnels, ports, roads, canals, railroads, and the facilities necessary to operate and service them. The wild organizational changes between August and November discussed above illustrated the conflict that existed between ETOUSA G-4 and the OCOT over control and direction of transportation between August and November. After November a logical division of labor began to emerge, culminating in January 1945 with the elimination of any references to movement control in the duty description and organizational structure of the G-4. The overlap emerged and was suppressed in less than six months, but it had caused a lot of friction and interpersonal animosity while it existed. The OCOT division chiefs were still frustrated after the end of the war, including comments about the friction between themselves and the G-4 over depot procedures and Stratton's attempts to micromanage the theater distribution plan from August to December.⁶¹

The official history of the G-4 section admitted that they did not have an effective handle on programing and controlling supply movements worked out until around late November or early December. This system was officially codified in theater SOPs and instructions on 28 December, when the G-4 surrendered control over allocating berths for

⁶¹ COL Hugh A. Murril, Control and Planning Division input to OCOT history, 10-12. Traub added a short appendix to cover his time as the chief of plans and reiterated his disagreement with G-4 policies. RG 498, UD 1210, Box 5981.

ships at the major ports to the OCOT.⁶² In the same set of documents, G-4 also acknowledged that they would get out of the business of linking up transportation with cargo at the ports and base section depots for delivery to the ADSEC. Under this new concept, the G-4 established goals for the delivery of goods by each service that managed its own inventories. The G-4 also created a theater critical shortage list; this document identified theater priorities that would be used to fill up any left-over transportation capacity if specifically requested items were not immediately available for loading. The OCOT would determine where to berth ships and how to move supplies around the theater, providing a short-term projection to COMZ. COMZ would turn around and order the various base sections to provide the required equipment, units, and material at the assigned place and time to execute the mission. Because the system was working in ten-day increments with a five-day lead period, everyone had time to identify and solve or mitigate hiccups.

The ETOUSA G-4 concluded that in the fall of 1944, decentralization was not a strength of the COMZ operation in France but a weakness to be fixed.⁶³ It is debatable that different phases of the campaign in France and Germany required different approaches, but by the late fall of 1944 ETOUSA had decided that top-down direction was the most appropriate response. Unfocused initiative by the services and by base section staffs wasted time and transportation resources. Working with the OCOT, ETOUSA began to investigate delays along the distribution chain at the loading and unloading points. COMZ had the authority to address the problems they discovered at the ports and in the base sections, and they took steps to reassert central control

⁶² History of ETOUSA G4: Section II, 46.

⁶³ Section II, 47.

while tightening compliance with newly revised SOPs. By mid-December COMZ largely had their own house in order and expanded their view to include 12th Army Group and 9th Air Force depots and transportation hubs.⁶⁴ Commanders were informed that they would be authorized one day's worth of unloaded trucks or trains in the local area. If they built up a larger backlog than this, no new supplies would be dispatched until they had complied with theater guidance. Local hoarding of supplies and the retention of rolling magazines in the combat zone dropped off, and the armies learned to comply with theater directives or else face grave consequences. SHAEF had learned some lessons as well, and they backed ETOUSA's threats to turn off the flow of new supplies unless bottlenecks were eliminated.

In hindsight, the G-4 section had realized that they had mismanaged the relationship with the transportation service between August 1944 and January 1945. The official history justified what was done by saying that they faced new circumstances:

transportation functions wholly new in nature, arising from the requirements of furnishing supplies to the armies on the Continent....[created an] urgent necessity for immediate action to expedite and insure efficient deliveries per the daily telegram, it was advisable to maintain the Supply Movements Section in G-4, where a close, direct watch could be maintained over supply transportation specifically. Now that the transportation operations have become more systematized and the transportation problems are less subject to sudden emergency requirements and unexpected developments, the supply movements functions are being handled entirely by the TC, whose responsibility these functions rightfully are.⁶⁵

The fact that the official history felt compelled to address the issue and that the explanation of what was behind the decision was so unsatisfactory is telling.

Transportation functions were not wholly new in nature in August; these same functions

⁶⁴ Ibid. Depot inspection teams were formed and directed to inspect problematic nodes in both the COMZ and combat zone.

⁶⁵ Ibid, 15-16.

had been in progress in the Mediterranean for almost two years, and in Normandy for two months, and they had been foreshadowed in France in 1918 and largely replicated during the last months of Bolero and during the mounting of Neptune in the U.K.

There was nothing wrong with G-4 oversight over the transportation service; it was the standard within the British Army and the system employed effectively at AFHQ and SHAEF. But it required coordination and cooperation with the movement and transportation team, not replication or competition. What the G-4 and supply requirements branch did come to recognize as an essential function for themselves was the prioritization of what got moved when demand exceeded the ability to move everything, or what secondary priorities to shuttle forward when what the combat units had asked for was not immediately available.⁶⁶

Organizational changes within ETOUSA G-4 were the result of learning what was occurring within the section and in the COMZ overall. Stratton dedicated resources to figuring out exactly what was causing breakdowns, and he had the courage to welcome bad news and then take swift action to fix problems. Stratton learned from his embarrassments in August and September, and he took a systems approach to improving COMZ's performance. The information provided by two IG inspections of the COMZ supply system in the fall provided the focus Stratton needed to improve his organization. The conclusions drawn from those two inspections and the resulting changes to how G-4 conducted its business help explain what went wrong in August and September.

⁶⁶ Ibid, 16.

ETOUSA G-4 and COMZ Learn to Function in Combat

The first challenge was to understand exactly why the lead corps were not receiving enough critical supplies to maintain pressure on the retreating Germans in early September. COMZ records in August and September indicated that they were delivering sufficient supplies to the ADSEC to cover daily consumption, but the ADSEC and 12th AG disagreed. By mid-September Stratton suspected that the ADSEC was overstating their requirements and that some elements within 12th Army Group were underreporting deliveries and inflating consumption figures in order to build up unauthorized reserves.⁶⁷ Stratton admitted in his journal on 10 September that he arbitrarily cut ADSEC requests for quartermaster class II and ordnance and chemical warfare service class IV requisitions from 2,275 to 1,750 tons as a result.⁶⁸ In many ways the COMZ and 12th Army Group were talking past one another. The 1st Army had largely converted to consumption planning figures based on experience in combat in North Africa and Italy, while the COMZ had no choice but to request support from the United States based on less generous War Department authorizations.⁶⁹ This was a trend that had started in the U.K. while ETOUSA was preparing for the assault landing in Normandy but continued through June and July. Eisenhower authorized Bradley to equip 1st Army as he saw fit, giving no restrictions based on tables of allowances. As a result, the assault divisions landed overstrength in a wide range of equipment and supplies, followed by very generous stockage of reserves under 1st Army and ADSEC control. As a result, the 1st Army ended up with more equipment and material in Normandy than it needed or could manage, much of it redistributed from equipment designated

⁶⁷ “History of the ETOUSA G4 Section, Section II: Problems of Supply and Distribution”, 18. RG 498, UD 578, Box 3931, ADM 553A and B.

⁶⁸ Personal Journal of BG Stratton, 10 Sep 44, cited in “History of the ETOUSA G-4, Section II”, 18.

⁶⁹ “History of the ETOUSA G-4, Section II”, 19.

for 3rd Army. The 3rd Army struggled to reach its authorized strength, much less the inflated level of equipment that 1st Army took to France.

The process of overfilling 1st Army and finding replacement supplies to restore 3rd Army cleaned out or significantly reduced select portions of the theater reserves. Much of this equipment was sent to France and placed under ADSEC control, but it was scattered in poorly located depots that were plagued with ill-disciplined record keeping. After the breakout, these supplies remained behind in Normandy, improperly marked and insufficiently accounted for on any theater-level inventory. Tens of thousands of tons of desperately needed supplies basically disappeared from the ledger. The only fix was to direct a massive inspection of the inventory and move the worst-sited depots out of those locations that had turned into bogs. Both tasks required manpower, time, and transportation assets that were desperately needed to fuel the advance. In many cases it was easier to ignore the depots in Normandy and draw supplies directly from the docks, or to pull a ship with needed cargo into a berth, download it, and send the material on to the front.⁷⁰

COMZ tried to overcome the transportation shortage in late August by asking the armies to show self-discipline and identify critical items that were absolutely necessary at the front. The initiative collapsed in the face of distrust, poor dissemination of instructions of how to run the process, and the definition of “critical” equipment. Stratton tried to break down communication barriers and restore trust in the supply system within ETOUSA through a series of visits to the army headquarters in September and October, but by then it was too late.⁷¹ Relations between

⁷⁰ Allied cargo ship manifests were very accurate and very detailed by this stage of the war. In contrast, technical service and ADSEC record keeping ashore collapsed in June.

⁷¹ History of ETOUSA G-4, Section II, 19.

COMZ and 12th Army Group hit rock bottom in September and October and this lack of trust undermined the efforts to make systemic improvements.

The first major attempt to reconcile the supply crisis with the goal of returning to the offensive had occurred on 12 September, when 12th Army Group hosted an emergency logistics conference that was attended by Bradley, Hodges, Patton, Moses, Stratton, and Plank.⁷² The purpose was to find solutions to the ongoing supply difficulties and therefore maintain the pursuit up to and hopefully across the German western border. Everyone agreed that air transport of supplies had to continue, and Stratton pressed Bradley to use his influence at SHAEF to get Antwerp opened as soon as possible by forcing Montgomery to commit more forces and make it his top priority. The discrepancies among the various delivery estimates were discussed; everyone agreed that the breakdown seemed to be especially pronounced in 1st Army, which acknowledged receiving 1,500 tons less per day for the last ten days than COMZ and ADSEC records indicated.⁷³ Stratton's personal notes from the conference ended with this notation: "Each Army Commander reported himself in sufficiently good shape with respect to supplies to launch forthcoming attacks with would take them to the Rhine."⁷⁴ He also recorded a comment made by Bradley that Antwerp would not be open to shipping for another month. Stratton left the meeting disappointed that the distribution problem was not going to be magically solved by the early opening of a major Dutch port, but he was reassured that the two army commanders did not feel that they had a logistics crisis on their hands that would keep them from reaching the Rhine.

⁷² Ibid, 25. There had been other sustainment and maneuver conferences throughout August and early September, but the meeting on 12 September was the first to acknowledge that supply difficulties had temporarily halted the pursuit, and the session was focused on finding solutions to the logistical side of the equation.

⁷³ Ibid, 27.

⁷⁴ Personal Journal of BG Stratton, 12 Sep 44, cited in "History of the ETOUSA G-4, Section II", 27.

As the pursuit slowed and stopped during the second half of September, COMZ began to get a handle on some of the deeper causes of the friction slowing down the logistics system. The COMZ completed an internal assessment on 22 September that pointed out a number of concrete items to address. The report stated that the command was routinely delivering 3,500 tons daily to 1st and 3rd Army as agreed in the September meetings, but it also noted that some unidentified percentage of that tonnage consisted of unrequested and unnecessary items. The armies continued to live hand-to-mouth on classes I, III, and V.⁷⁵ But by focusing almost exclusively on those three classes of supply in August and September, the COMZ was creating a second crisis involving cold weather gear, replacement machine gun and automatic rifle barrels, and ordnance class II and IV items associated with armored fighting vehicles that would crest soon. Another lesson learned was that by overemphasizing the delivery of bulk fuel, units were getting none of the secondary products necessary to keep gasoline engines and tracked vehicles running, such as oil, grease, and filters.⁷⁶

The first priority Stratton addressed was closing the gap between the critical items requested by the armies and the non-essential items that were delivered. Unfortunately for ETOUSA, this “simple” problem showed just how complicated the supply requisition and distribution process was and how much energy was needed to correct the most glaring deficiencies. The first challenge was to discover what was already on the continent but lost as a result of poor record keeping. The second challenge was to keep any newly landing cargo from disappearing into the same black holes.

⁷⁵ “History of ETOUSA G-4, Section II”, 29.

⁷⁶ Ibid, 34. This is not to say that COMZ should not have anticipated these requirements based on experience from the Mediterranean and particularly from North Africa.

Stratton conceded that no one within the system really understood exactly what was going wrong along the complex path between requisition and delivery. His solution was to assign a small team to follow the daily telegram provided by 1st Army on 28 September from submission to final delivery of the requested items, a process that occurred on a continuing 24-hour cycle.⁷⁷ It was the start of a lengthy process that would culminate in a complete revamping of supply procedures within ETOUSA over the coming two months.

The G-4 at 1st Army submitted his requests to the ADSEC, which divided the order into three categories: items on hand in dumps and forward depots in the combat zone, those in theater, and items that would have to be shipped from the U.K. or U.S. The second and third categories of items were then passed back to the ETOUSA/COMZ G-4. At COMZ the list was broken out among the technical services, who were given a few hours to determine which depots would be used to fill which requisitions. The team would reassemble and link up transportation assets to the various pick-up locations. Anything not available in theater would be send back to the Port of New York or U.K. Base Section for future delivery.

Recent operations exposed a few critical problems. The COMZ used weight, rather than weight and volume, to allocate transportation, which often produced a shortfall. All agencies within the chain had different appreciations of what items and quantities were available in the various zones and depots. The ETOUSA signal section might think there was plenty of telephone wire in two depots in the Normandy Base Section and direct their release, but in reality the depots did not have that material. There was not enough time during the 24-hour cycle to call and confirm all this data or for the depots to report every mismatch. If the depot did not have the directed items, they would pull items they assumed would be necessary in the combat

⁷⁷ "History of ETOUSA G-4, Section IV", 76

zone in the coming days, or even just items that were taking up a lot of storage space, in order to fill the trucks and railcars assigned to the upcoming mission. The technical service staffs at the base section and theater levels would do the same thing in order to use all the transportation available. Surprisingly, the G-4 did not centrally manage or direct the services to maintain lists of prioritized items for the combat zone to absorb unused transportation but also to ensure that it was used to deliver items everyone agreed were important.

All this information was invaluable in focusing the G-4 on high-payoff efforts to improve the system. Everyone needed to understand and follow the same theater SOPs and to have the communications devices needed to place requisitions and to stay abreast of what was already on the continent in which depot. Consolidation into a few large general depots would be more efficient than keeping the large number of service depots scattered across Normandy, but in the short term the COMZ could not divert the trains and trucks to move everything around. The most problematic cases arose when a service had access to its own transportation, like the engineers, who were running their own requisition and distribution system while largely ignoring directions from the COMZ.⁷⁸

Lee's SOS had always been obsessed with operational security, overclassifying documents, leaving data out of reports and the notes from meetings, and restricting access to plans and planning sessions to help prevent leaks. This sensitivity eventually penetrated down to the level where it interfered with the proper completion of manifests and waybills attached to equipment and supplies.⁷⁹ Initially service troops were taught to leave some data fields vague or even blank, especially when it came to the final destination and anticipated end user of the item.

⁷⁸ Section IV, 79-82.

⁷⁹ Section II, 38.

But the crisis of September and October finally convinced the COMZ that the importance of successful delivery outweighed concerns that the Germans might piece together Allied locations, critical nodes along the LOC, and a detailed order of battle by reading the shipping labels attached to crates and rail cars. Eventually the COMZ internalized the idea that there was no such thing as too much information on a manifest or waybill, nor too many required copies of a document. By 5 October every package had its own waybill, and each provided the name of the ship that had delivered it to France, the service managing the item, the class of supply, and the last known geographical destination, including the date of requisition, customer, weight, description of items, and consignee handling the item during each stage of movement.⁸⁰ Other changes approved in October included a directive to shift over to commodity storage and loading whenever possible along with new guidance on how to estimate consumption rates and requisition artillery ammunition.⁸¹

The biggest breakthrough came in late November and was partly the result of an ingenious use of the theater inspector general. Stratton directed a follow-up investigation in late October to see how well the theater had responded to the information and instructions published since late September and to discover other problems with the system. Unfortunately for ETOUSA, the two-week process showed just how far the COMZ still had to travel to create an efficient process.⁸² No new aspects of the problems were discovered, only a failure to conclusively fix the ones already discovered in August and September. The problem was three-fold – it was a big theater that was busy fighting a war and not retraining everyone on the

⁸⁰ Ibid, 38.

⁸¹ Ibid, 33, 40. “Commodity storage” or “loading” was the term used to describe the effort to avoid mixing up supplies. The goal was to ship or store items grouped by the managing technical service and class of supply, even though this tended to require more storage and transportation space.

⁸² Section IV, 83-84.

requisition process, communications technology was not up to the complexity of the task, and the requisition process turned on too tight a schedule for effective human intervention when reality on the ground did not match directives based on centralized inventory documents. Solving the first problem was a matter of time and effort by the chain of command, combined with simplification of theater procedures. An associated task was to centralize control over all transportation assets, including air and motor transport organic to technical services and peer organizations such as the field armies and the Army Air Forces. The second problem might be mitigated with simpler forms and increased reliance on push-based resupply based on revised consumption figures. The third aspect was the easiest to address: shifting from a 24-hour requisition cycle to something that gave the various organizations in the chain a bit more time to confirm assumptions and react to unanticipated surprises. This would also make it easier to maintain a common picture across the theater of what was on hand and where it was stored and might create some free time to reeducate everyone on the procedures they should be using.

On 22 November Stratton announced that the theater would transition to such a system on 2 December.⁸³ Units were directed to shift to ten-day requests submitted five days before the beginning of the period. Consumables would be estimated based on what was now a considerable body of combat experience, with repair parts and class II items controlled using a blend of predicted wastage and the specific shortages provided during the last reporting window. The real breakthrough was creating a five-day grace period in which to find the location of requested items or to concede that the item was not available and to use the allocated transportation to move something else. Perhaps COMZ picked up the idea from 21st AG, who used a five-day delivery cycle submitted five days in advance from the beginning of the

⁸³ Section II, 30.

campaign, or from 12th AG, who transitioned from daily to weekly logistics reports in late August.⁸⁴ Regardless of the source of the idea, it was a key step on the path to increasing efficiency at COMZ.

Internally, COMZ believed that it had turned a corner by mid-October and that it was running a tight ship by early December. Unfortunately for Lee, the lag between identifying the problems from September and October and confirming that the underlying causes had been fixed was significant. In the meantime, word had reached SHAEF and ASF that COMZ had problems with a number of its systems, and a wave of technical experts was dispatched to try to help. The immediate crisis revolved around artillery ammunition available at the front in October, but in the process of fixing that shortfall outside exposure inevitably expanded to touch on every aspect of the requisition and distribution process managed by COMZ. ETOUSA hosted a wave of trouble shooters and investigators through the fall and winter, such as MG Lucius Clay, MG Henry Aurand, Lutes, and eventually Somervell himself.

Eisenhower had asked for him by name, and, as a result, MG Clay was given a warm welcome at SHAEF before being sent over to Normandy to speed up the flow of supplies through Cherbourg. By late October the backlog of unloaded ships in the ETO was reaching critical proportions, and Cherbourg was only unloading about half of the tonnage that COMZ has set as the daily target. Clay discovered that the bottleneck was really caused by a lack of motorized and rail transportation to first shift the supplies from dockside to local depots and then to move large quantities of material out of Normandy on trains bound for the front. From Clay's

⁸⁴ Monthly AAR, G-4, 12 AG, 6 Sep 44. RG 407, Entry 427, Box 1346. Moses realized there was no way the divisions, corps, and armies could accurately track daily consumption and receipts during mobile operations. By shifting to a weekly report, units could take advantages of momentary lulls in the advance to get a semi-accurate count of supplies on hand and shortages down in tactical units. The report was far from perfect, but at least leaders acknowledged the limitations of the information at their disposal.

perspective, Ross was mismanaging the distribution of rolling stock throughout the theater; it did no good to increase the discharge rate at Cherbourg if the supplies could not be forwarded on to users east of the Seine. By the end of November Clay had managed to almost double the volume of supplies flowing through Normandy Base Section while simultaneously consolidating and cataloguing all the material that had been left behind by 1st Army and ADSEC.

In hindsight, Clay attributed his success to his ability to analyze what the base section team required and then to extract those resources from COMZ and ETOUSA.⁸⁵ Clay did not explicitly acknowledge it, but those measures were only possible because of the authority and independence his rank and close relationship with Eisenhower conveyed. Clay was an outsider with excellent connections back to SHAEF and the ASF, and he was not afraid to ruffle feathers to get the job done. He demanded control over the technical staff section representatives posted in Normandy, insisting that they follow his instructions and priorities rather than those coming from Paris. Clay found and empowered the technical experts within his own organization, demanded internal coordination and synchronization at the base section level, and then exploited the access conveyed by his connections to get what he wanted from ETOUSA.⁸⁶ Officers like MG Clay were rare, and the U.S. Army did not have another half a dozen men with similar talents to man all the base sections in the U.K. and France. Clay's approach focused on reinforcing his own authority to synchronize his staff and on collaborating with the ETOUSA staff to mesh his priorities with those of the theater.⁸⁷ COMZ would have been better served if they had had a few more officers with the right personality and similar authority to adopt some of these methods.

⁸⁵ Crosswell, 756.

⁸⁶ MG Lucius D. Clay, interviewed by Jean Smith, 14 January 1971, interview 13, transcript, OH-285, Dwight D. Eisenhower Presidential Library (DDE PL), Abilene, KS, 437.

⁸⁷ Crosswell, 756.

Another observer of the inner workings of logistics in the theater was MG Henry Aurand, who was dispatched from the ASF staff in early November to help ETOUSA get to the bottom of their problems with ammunition for the heavy artillery. Aurand's preliminary conclusions help illustrate the intellectual distance between the ASF and ETOUSA as well as the internal fissures between the combat and communications zone. Aurand quickly developed a hunch that the stockpiles of artillery shells in the forward areas were much larger than Moses and 12th AG were letting on, perhaps out of ignorance, but more likely as a ploy to gather more ammunition than they were authorized, and perhaps even to discredit Lee and COMZ.⁸⁸ This conspiracy theory was taking things too far, but obviously 12th Army Group did not trust COMZ and the War Department to deliver enough artillery ammunition to allow the command to use its preferred tactics and to maintain the tempo of operations desired by army commanders. The real issue seemed to boil down to a disagreement between 12th AG and the ASF over what the official rate of consumption should be, and COMZ was stuck in the middle. COMZ did not dispute what the armies were telling them was the required rate, but the command could not seem to convince the ASF that these estimates were adequately justified.

Aurand suggested that ETOUSA had even larger problems. During a long dinner conversation on 18 November with Hughes, Sayler, and Maxwell (WD G-4), Aurand mulled whether logistical problems in the theater might actually be the result of questionable command and control arrangements. Echoing a theme raised previously by senior leaders within the War Department, Aurand suggested that Eisenhower might be trying to handle too much on his own. As a result, he had insufficient time to manage the relationship between 12th AG and

⁸⁸ Crosswell, 755, 761-762.

COMZ.⁸⁹ Aurand added that the best solution was the appointment of a full-time ETOUSA commander with his own staff to supervise the interaction among Lee, USSTAF, and the two army groups. Trust in the logisticians needed to be restored by the empowerment of a superior authority who openly balanced the demands of the combat and rear areas in a number of public fora. Aurand thought that COMZ seemed to be doing the best it could under the circumstances, but he thought that its leaders had been written off by 12th AG and that a healthy relationship could not be easily reestablished.

What Aurand did not know was that the same distrust had emerged in 21st AG and among the sustainment team at SHAEF, which supported the argument that perhaps COMZ did have major internal issues and 12th AG was right. Aurand was vague on the details of who could command his proposed autonomous ETOUSA, and he did not seem to consider how hard it would be to find an officer who could supervise Lee, Bradley, and Spaatz, or who would backfill Bradley if Eisenhower's most trusted subordinate was moved up a level in the chain of command. Regardless, under the current circumstances, Aurand seemed to have thought that COMZ was stuck trying to accomplish impossible tasks directed by maneuver commanders who had only a weak grasp on logistics. A failure to continuously produce miracles resulted in unrelenting criticism of COMZ, criticism that was not refuted or addressed by Eisenhower and the team at SHAEF. Aurand did admit that some of the senior officers at ETOUSA needed to be fired, and his list included Sayler (the chief of ordnance), Littlejohn, and Rumbough (the chief of signal). Aurand's assessment of Sayler was in tune with what Eisenhower himself thought at the end of October. Hughes recorded in his diary a sentiment voiced by Eisenhower that many other

⁸⁹ Letters, Aurand to Sayler, Nov and Dec 44, Hughes Diary, 18 Nov 44, in Crosswell 761.

officers seem to have shared, both during and after the war: “Ike says Cliff [Lee] has great faculty of picking poor men and poor organizations.”⁹⁰

Aurand is helpful because he articulated a view shared by many participants in the European theater, but he missed the boat on two major issues. First, COMZ had major problems with their internal procedures. Not only had 12th AG given up on Lee by early November (a process that had started in August at the latest), but Gale and 21st Army group had reached the same conclusion in early September. Most of those glaring faults had been fixed by the time Aurand arrived; he did not realize how much COMZ had grown over the last three months. Second, most of the ordnance experts who were involved in the controversy over artillery ammunition missed a few key aspects of the complaint coming from the combat units. It was largely irrelevant to the maneuver commanders that the U.S. Army only used 30% of the 408,000 rounds of 240mm ammunition that reached combat theaters or that the production figures so stoutly defended by the War Department were in the end sufficient to win the war.⁹¹ What mattered was that combat commanders had enough ammunition, at the right time, place, and with the right mix of types and quantities, to sustain the tempo of operations they desired. It was not a simple matter of production but a complex issue involving production, transportation, trust, and realistic expectations. Bradley’s 12th AG fought differently from September to December because of localized ammunition shortages. These shortages might have been caused predominantly by transportation problems, but in the end the concerns about availability were legitimate. As a result, Bradley imposed restrictions on the daily rate of fire that forced the U.S. army to fight differently and advance at a slower pace. SHAEF conducted a series of tactical

⁹⁰ Hughes Diary, 30 Oct 44 in Crosswell, 757.

⁹¹ SHAEF and ETOUSA won the argument and convinced the War Department to ramp up production in December, but the results were never felt before Germany and Japan surrendered.

attacks during the fall of 1944 in pulses, their frequency being dictated by the amount of time required to amass enough ammunition to launch the next push. Although perhaps frustrating to the maneuver commanders, it was nothing different from the dynamic that had controlled offensive operations in the Great War on the Western Front.

Lutes was the third key troubleshooter sent to ETOUSA to help over the fall, arriving in Paris on 5 December 1944. Lutes submitted a preliminary written report outlining his first impressions of ETOUSA and COMZ on 25 December. After two weeks of digging, Lutes concluded that COMZ still had massive problems in a number of key areas.⁹² But Stratton disputed Lutes' technical conclusions, questioning all fourteen of his major problem areas in a written rebuttal and progress report to SHAEF in late January 1945.⁹³ Stratton did not deny that these problems had existed in the past, he did believe that ETOUSA had identified them internally over the last few months and had already devised and implemented solutions that would ensure that the command was ready for the spring offensive. SHAEF disagreed, ordering a weekly progress report from ETOUSA that tracked their efforts to solve the fourteen problem areas identified by Lutes during his extended visit. It was a new low point in the professional relationship between the logisticians and senior leaders in both SHAEF and ETOUSA.

The official history of the ETOUSA G-4 section provides a convincing argument that the command and Lutes identified the same technical shortcomings, that ETOUSA implemented a host of new SOPs and instructions before the publication of Lutes' report on 25 December, and that it did nothing fundamentally different after implementing a few minor organizational and procedural changes in early January. The major changes had occurred between mid-October and

⁹² Ruppenthal, Vol. II, 349.

⁹³ History of ETOUSA G-4, Section IV, 97-111.

early December. Combined with the opening of Antwerp, these procedural changes implemented by ETOUSA before Lutes' arrival ensured the command was already well on the road to recovery. The truth is probably somewhere in the middle. Lutes could and did help with problems back in the ASF and in the zone of the interior to expedite the delivery of artillery ammunition, medium tanks, tires, trucks, and signal equipment that were in short supply globally.⁹⁴ Lutes correctly pointed out the personality conflicts between the COMZ and some combat units, particularly with 1st Army, 9th Air Force, and 12th Army Group staff; somehow Plank and the ADSEC avoided any negative association with the larger COMZ.⁹⁵ Lutes and Somervell attributed the positive reputation of ADSEC and the negative reputation of COMZ to a "spirit of urgency" or passion for accomplishing the sustainment mission.⁹⁶ In the eyes of the fighters, Plank's organization had it and Lee's outfit did not.

The first area on which Lutes focused was speeding up the delivery of supplies to ETOUSA and their distribution once in theater. Lutes knew that the ASF could not quickly increase the flow of production items coming from the factories in the United States. But it could deliver those critical supplies that were already in the system awaiting transportation more quickly and efficiently. Delays along the chain of delivery from factory to ASPs consumed most of the 100 days required to complete the cycle. If ETOUSA could get ships into berth and download them faster, it would produce the same result as increasing production. That fall the average ship loitered 23 days in continental waters waiting to begin the download process, while distribution from the port to the user only took about 23 additional days.⁹⁷ Lutes also recommended that ETOUSA resurrect express delivery trains and convoys, systems they had

⁹⁴ Ruppenthal, Vol. II, 351.

⁹⁵ Ruppenthal, Vol. II, 349-350.

⁹⁶ Ibid, 350.

⁹⁷ Ruppenthal, Vol. II, 351.

relied on in the U.K. that had fallen out of use on the continent. Stratton created the rapid express service (REX) for truck convoys out of Marseilles and Antwerp and the Toot Sweet Express for rail traffic in early January. Both systems used a very small percentage of the transportation resources available, but they could cut delivery times in half or even by two-thirds to rush critical items to the front under special conditions.

The second area that Lutes tackled was one in which he had hit hard back in May during his first extended inspection of ETOUSA: record keeping and management of the theater inventory of supplies and equipment. COMZ had failed to implement a uniform system for reporting and accounting what was on hand, due in, and due out, despite the requirement to provide this data to the ASF monthly.⁹⁸ Lutes also discovered a wide range of estimates and consumption planning figures in use across the command. Each section seemed to have its own projections for how long it took to order and ship items, how quickly supplies and equipment were consumed in combat, and how many service troops each sustainment task required. The command did not have a planning rulebook to ensure that everyone was using the same basic sets of assumptions and therefore justifying requests to the ASF using similar logic. Lutes' response to some in ETOUSA who disagreed with the standard planning factors employed by ASF was to challenge the command to do the hard work necessary to justify changes. Lee took these points to heart and launched comprehensive programs to fix both accountability and requisitioning procedures and to revise the factors used to project the replacement of material in early February. The SOP covering accountability was published on 1 April, and ASF began to accept and

⁹⁸ Ruppenthal, Vol. II, 352-355. Lutes started his criticism of logistical planning and forecasting at ETOUSA by pointing out that, if you did not know what you had on hand in theater (to include items already shipped from the U.S. and promised out to the armies), it was impossible to proceed to higher-level tasks.

implement new planning figures provided by ETOUSA in late April.⁹⁹ These changes, which were based on Allied combat and logistical performance from December to May 1945, represented refinements to a generally functional system rather than major revisions.

As a direct part of the struggle to determine what was already in the theater and then to move this material along to the divisions, Lutes dug into depot management, record keeping, and transfers into and out of the facilities. As COMZ had gotten a handle on the depots it controlled, it had cleared up problems caused by vague instructions, confronted the need for retraining, and ensured the chain of command enforced the new rules. But when the transportation log jam began to break up in late October and burst apart with the opening of Antwerp, COMZ overwhelmed the depots in the advanced section zone in the first half of December.¹⁰⁰ Each of the 27 divisions in 12th AG was receiving 650 tons of supplies a day, and tonnage allocated to create reserve stocks jumped from 3,400 tons daily in the first half of November to 10,250 tons a day in the second half.¹⁰¹ In the mad scramble to download and store this flood of material, accurate record keeping became a secondary priority. Many of the advantages secured by commodity loading and storage, improved waybills, and exploding transportation capacity were lost when this material was scrambled and misplaced in the combat zone.

The solution adopted by COMZ was to establish intermediate depots as called for by U.S. doctrine and to turn over fine-tuning of the distribution system to OCOT. By establishing

⁹⁹ Ibid, 354-355. ETOUSA won the war before these new procedures were fully implemented, so obviously COMZ had developed a system that was good enough to meet basic sustainment requirements by early 1945. Development of a perfect system (according to ASF standards) took too long, but one could easily argue that NATOUSA and ETOUSA had to do ASF's job for them. A thorough SOP on how to run theater accountability and requisitions should have been centralized by ASF, just as an Army-wide effort to produce more realistic consumption planning figures. ETOUSA could only complete this work between February and April 1945 because of their increased efficiency, vast combat experience, and routine functioning of a number of tasks that required constant monitoring in the past. ETOUSA did not have the time or experience necessary to fully develop these systems on their own before fall 1944.

¹⁰⁰ Ibid, 355-56.

¹⁰¹ History of ETOUSA G-4, 43.

intermediate depots, COMZ slowed the flood of material into the combat area, but still moved the material up closer to the front should it be needed.¹⁰² OCOT was best positioned to eliminate backlogs throughout the entire system, and it gained control over where a ship would download for the first time in January. From there OCOT could match cargo with trains and trucks for delivery to the full range of theater depots, dispersing movement to ensure that no facility was overwhelmed. Inspection teams from ETOUSA still prowled the battlefield looking into regulating stations or depots that consistently held on to transportation assets too long or seemed to take too long downloading supplies, looking for manpower or procedural solutions to accelerate the flow.

The last category of problems that Lutes tackled was a catch-all politely referred to as “expedients” by Ruppenthal. As trust in the supply system eroded, units found work-arounds to increase the chance that critical supplies would be on hand when called for. Units asked for more supplies than they needed or were authorized, hoarded material they could not move with organic assets, sent liaisons back to COMZ and base section headquarters to hand deliver requisitions and hunt down sources of supply, and escorted trucks and trains to the front to ensure that they were not diverted.¹⁰³ Combat formations also sent their own trucks back as far as Normandy on fishing expeditions, looking for equipment and material that might have fallen through the cracks or that someone remembered seeing back before the breakout. Apart from the issues with inflated requisitions and hoarding, the various agents floating around in the

¹⁰² There were logical reasons why COMZ decided not to establish intermediate depots between October and January, and the process was complicated by the location of Antwerp and Marseilles at the northern and southern ends of the combat zone. The logic against establishing intermediate depots had largely disappeared by early January.

¹⁰³ Ruppenthal, Vol. II, 360-361.

communications zone looking for supplies and then expediting their delivery did no real harm, but their presence spoke volumes about the breakdown in trust between the two communities.

The overall conclusion offered by Lutes and Somervell at the end of their back-to-back inspections was that COMZ lacked drive and vision. COMZ seemed to be constantly in crisis management mode, largely because it could not anticipate requirements and take proactive steps to manage the implications of Allied decisions and changes to the operating environment. Lee described the results of the visit as exposing “several small deficiencies in supply methods” but also as validating “the basic soundness” of the COMZ.¹⁰⁴ Senior leaders at ASF and SHAEF did not necessarily agree that these were small deficiencies, and Eisenhower directed Lee to develop detailed programs to fix each noted deficiency and to report his progress weekly. Somervell ordered Lee to reestablish a control division at COMZ, provided BG Clinton F. Robinson from his own staff to lead it, and expected this new element to standardize reporting within the command and track the progress of directed improvements. Between 23 January and early March Lord passed along a weekly progress report to Smith and Eisenhower until they agreed ETOUSA had adequately complied with the recommendations provided by the ASF.

Consolidation with the SOLOC, 8 February 1945

The results of Lutes’ and Somervell’s inspections were presented two weeks before Larkin’s SOLOC was merged with the COMZ. The infusion of new personnel and the different operational experiences they brought with them made adopting the suggested changes easier to swallow. The ETOUSA G-4 assumed a simplified divisional

¹⁰⁴ Ibid, 362.

structure, took up a new approach with a number of its historical functions, and saw a lot of turnover among branch, division, and section leaders.

| Division | Associated Branches or Sub-Sections |
|------------|--|
| Admin | Office services, Procedures, Reports |
| Operations | Maint., Installations, Programs and Priorities [rail, road, port, canal], POL, Storage |
| Plans | Current plans, Long-range plans, Redeployment |
| Supply | Allied, Civil, Distribution, Equipment of Troops, Requirements, Salvage |

Table 6.5: ETOUSA G-4 internal organization after the merger with SOLOC, Feb 45¹⁰⁵

The new structure consolidated power under four division chiefs, cutting the number of elements the G-4 needed to supervise in half. Plans branch was retained and upgraded to full division. LTC HC Barber, the old G-4 plans branch chief, became the deputy to COL Carter Page, who had been the plans chief at SOLOC.¹⁰⁶ Almost all of the sub elements were reassigned to new divisions, and the distribution branch was reestablished under the control of the supply division. The most important changes involved the integration of new personnel from SOLOC. BG Stratton was moved down to become BG Morris W. Gilland's deputy and then transferred out of ETOUSA entirely. COL W.E. Potter, the old plant and communications chief was moved to the operations division, and COL D.R. Neil was retained as chief of the supply division. About two-thirds of the original section and branch chiefs were retained, the balance being replaced by their counterparts from SOLOC. This sent a clear message. The majority of the men and officers within the G-4 were fine, but Stratton had lost the confidence of his peers and superiors, and so he had to go. The new structure established three powerful operations divisions led by full colonels, and it balanced and logically distributed the branches among them

¹⁰⁵ History of the ETOUSA G-4, 29.

¹⁰⁶ Ruppenthal, Vol. II, 363.

to add a level of supervision between those lieutenant colonels and the G-4 himself. It was hoped that giving more authority to the division chiefs would result in more responsive support to the combat zone. The last round of reorganization in March looked to reduce as many personnel slots as possible by eliminating redundancy in the section and across the staff and by transferring as much responsibility to the technical services as they could realistically handle. The major result was the elimination of the POL branch, which added nothing that the MPS and quartermaster service were not already doing.¹⁰⁷

Despite almost two years of practical experience with running theater-level logistics in a variety of environments, there was no expectation that the ETOUSA G-4 would be perfectly organized at the start of the campaign. Moderate organizational adjustments are normal and healthy; as conditions, missions, and priorities change the staff needs to evolve to better manage them. But it seems fair to say that Stratton's section required drastic overhaul once it assumed control from the ADSEC over the communications zone. Because the COMZ did not really understand where they fit within the sustainment system on the continent, the G-4 contained a number of branches that did not know what their unique and critical tasks were, included unnecessary branches, was missing a few branches they should have anticipated, and envisioned supervising a series of tasks already entrusted to technical staff sections. ETOUSA's role in planning, storage, and stock control and their relationship with the OCOT were particularly problematic and would see some of the most dramatic changes. In isolation these developments would have been considered part of the normal process of transitioning from a garrison to combat environment. But by August 1944 Stratton's team had had at least 22 months of nearby combat experience to draw from. The organization, duties, and responsibilities of the section

¹⁰⁷ Ibid, 31.

should not have come as such a surprise nor required so many major adjustments to become relevant.

The ETOUSA G3, COMZ Priorities, and Staff Coordination

A major shortfall of COMZ's concept for operations in France was a clear understanding of exactly how the half dozen geographically aligned sections would be synchronized. Someone needed to assign forces, boundaries, and missions to these commands and then adjust them over time. A similar process needed to occur at the COMZ level between the commander, enabled by his general staff, and the various chiefs of service, and then be replicated in the procedures and relationships with the field and air tactical commands. The most important and difficult task was to integrate activities at connecting points, where missions that unfolded across a number of geographic and functional boundaries were handed off from one command to another. The Red Ball Express was a perfect example. Motor transport was controlled by the MTB and OCOT, missions were prioritized by the ETOUSA G-4, and the convoys of trucks were assisted by service troops from each base section that the route traveled through. What staff section would be responsible for issuing detailed coordinating instructions to a dozen supporting agencies and commands and then tracking compliance?

Traditionally this function was performed by the G-3 in tactical organizations of the U.S Army, and the G-4 performed a similar role in integrating the different service and branch units executing the sustainment mission in the rear area. Applying the same method SOS had used in the U.K., Stratton's G-4 section had the responsibility to synchronize and integrate the services and sections in France. Complicating this role was the fact that the ETOUSA G-4 had no practical operational experience prior to August. Writing operations orders, managing an operations center, and supervising execution in the field were not commonly emphasized in

support organizations. In contrast, the special staff sections were familiar with coordination among themselves and across base section boundaries, a skill set important to and trained at their service and branch schools. In consultation with the more experienced technical services, the G-4 would have been well served to work out a system for controlling operations before deploying to the continent.

If manned by a few of the right officers, the ETOUSA G-3 might have helped solve some of the burden placed on the G-4. As their mission evolved once they reached France, the G-3 did find a useful role that helped free up the G-4 and Lee for other tasks. The major function of the G-3 section was to assign units to the major U.S. subordinate commands, from corps headquarters and combat divisions to independent battalions and companies. As the command structure stabilized, this became relatively straight forward, but early in the campaign and during the creation of a few new major commands the work load spiked. Written instructions running to a dozen pages involving almost a thousand units bounced back and forth between almost a dozen headquarters with the activation of 3rd, 9th, and 1st Allied Airborne Armies. Activation of 12th Army Group and the transfer of operational control of 6th Army Group from AFHQ to SHAEF simplified some aspects of the problem, but it mostly just raised them one level higher. Once ETOUSA accurately captured exactly which units were assigned to an army or army group, any further changes were typically internal to the controlling organization. Occasionally new units would arrive and be assigned, or units transferred between army or army group, but this was relatively easy compared with the initial battle to get the blend of divisions, combat, combat support, and combat service support units about right across a new corps or army.¹⁰⁸

¹⁰⁸ See ETOUSA G-3 messages on 18 Aug 44 and 10 Sep 44 to various commands associated with the formation of 9th Army and 1st Allied Airborne Army. RG 498, UD 324, Box 1435. The back and forth would typically last for about a week as dozens if not hundreds of changes were made to nomenclature and assignment of companies,

This function was complicated by the dual nature of the staff section, which was both the ETOUSA and COMZ G-3. Assigning service units was the most complex and frequent duty, and it consumed a disproportionate amount of time. Service units tended to be deployed as independent companies or battalions, so there were a lot of them. They were first assigned to 12th Army Group or COMZ based on detailed troop deployment schedules projected through D+90 linked to the Overlord plans. Later a theater formula was used to guide the assignment process; the goal was to maintain a fixed ratio of service capabilities in each air, field, and service command. Once a unit was assigned to USSTAF or one of the army groups, it largely disappeared from ETOUSA's radar, but units assigned to COMZ had to be further assigned down to the regional section level or else retained for direct employment by the COMZ or one of the special staff sections. Units were traded across base sections as new commands were established, ports opened, and transportation networks restored and put into operation. It was a crushing amount of work that required a lot of resources to keep accurate. The G-3 did not issue mission instructions to base sections or centrally managed unit pools; they only assigned them to superior commands. Early in the campaign, employment of these units was delegated to a complex blend of base, technical section, and COMZ control.

The assignment of combat and combat service support units to the armies and army groups was relatively straightforward. Eisenhower decided where the corps and divisions went, and each had an associated pool of tank, tank destroyer, engineer, cavalry, artillery, and anti-aircraft battalions and groups. The commanders might not like the distribution of forces, but once the army group or SAC made his decision, they knew they had to live with it. Early in the

battalions, groups, and divisions. SHAEF was the final arbiter if one of the armies or army groups believed it was not receiving its fair share of associated support units for each division or combat group.

campaign there was no similar consensus or central direction covering the distribution of service troops. The 1st Army was given operational control over the ADSEC with all its attached service units; by late July these accounted for between 50 and 75% of the total COMZ D+90 troop basis. Because 1st Army remembered a day when they controlled a massive pool of service troops, they could never mentally adjust to the reduction to traditional manning levels, and initially 3rd Army and 12th Army Group wanted the same support ratios they had witnessed for 1st Army.¹⁰⁹

ETOUSA G-3 was very busy filling an important function for the theater, and they had no spare organizational energy to help Lee or the G-4 synchronize support activities within the COMZ. To do so would have required a larger G-3 section and a different vision as to their critical role. Their message traffic from August and September helps illustrate just how important the armies considered their service troop augmentees and suggests their level of dissatisfaction with the units available from late July through September. There are scores of pages of repeated appeals between the armies and COMZ trying to secure more service troops, but there was almost no mention of combat or combat support units.

Base section assignments and role and their interaction with COMZ

The leader of any organization exercises command and control through two means: his staff and his subordinate elements. We have already seen how the staff at COMZ learned how to overcome early deficiencies and evolve to fill a role that meshed well with the roles eventually assumed by SHAEF and the three army groups. Lee also had between four and six base sections

¹⁰⁹ Cable, ETOUSA/COMZ AG to 12th Army Group, 4 Sep 44. RG 498, UD 324, Box 1435. This was a three-page document explaining why 9th Army would not have the same level of service troops 1st Army first deployed to France with. 12th Army Group had asked COMZ (Fwd) a similar question back in August, inquiring if two newly assigned infantry divisions and an armor division would come with any extra service units beyond their organic assets. 12th Army Group was particularly interested in any information about quartermaster truck companies and ordnance maintenance units.

helping to manage the communications zone at the height of the campaign in France in 1944. The activities of each base section in France were very similar to those that they had practiced in the U.K. The only notable difference was the need to coordinate and support the passage of trucks, trains, and units across their territory. The pace of operations was more intense, and the infrastructure was in bad shape initially, but in general each base had much the same array of service units and tasks as they had seen in Britain. Confusion and friction between base section commanders and the chiefs of technical services that had existed in the U.K. were not solved by deploying to the continent, but in general the bases performed all of their assigned tasks well once the staffs had settled in and established effective communications with COMZ. Problems that arose involving the base sections were not the result of internal failures but the product of miscommunication by the COMZ or the service chiefs, or what some witnesses believed was a poor geographic distribution of the commands across the zone of communication.

General Aurand, an officer with over twenty years' experience as an ordnance officer, believed that Lee and the engineers with whom he surrounded himself did not understand how to allocate his area and functional commands to perform the communication zone mission. In a written analysis prepared about a year after the end of the war, Aurand argued that the staff at COMZ had never completely understood how to integrate the tools at their disposal to make logistics work during the first six months of the campaign in France. It was a complex and interlocking argument with a number of glaring flaws, but it also gave insight into what Lee could have done differently to be more effective. It is difficult to sort through Aurand's biases against "Beetle" Smith, the Office of the Chief of Transportation, and some of the staff at COMZ, and it must be remembered that he arrived in theater after the mistakes on which he focused had already happened. Finally, as the commander of the Normandy Base Section from

November to the end of the war, he was in no position to speak authoritatively about some of the decisions and procedures followed in the armies and at SHAEF.

Aurand believed that the COMZ had made three interlocking mistakes in how they employed their base sections. First, they deployed various sustainment headquarters to France out of sequence. Second, the COMZ staff tried to centralize a number of functional missions at their level that he felt should have been delegated to the base section commanders. Third, the base sections were poorly aligned, with bad boundaries and overlapping missions. Aurand believed that Lee treated base sections as interchangeable pieces and missed the nature and importance of the fundamental differences among base, intermediate, and advanced sections. His arguments got a bit technical, but the key point was that, by following service doctrine on how to distribute supplies, the COMZ could have relied on decentralized execution to eliminate friction before it resulted in a crisis. Aurand also believed that Lee mishandled the phased deployment of command elements into France, jumbling up the logical sequence that should have been followed. Aurand thought that Lee could have created two unencumbered base sections much sooner than May and June and then deployed the first base section to Normandy with ADSEC.¹¹⁰ From the first week of the invasion this would have allowed the two commands to focus on their doctrinal mission and prevented the need for ADSEC to eventually turn its depots over to another organization. Aurand also believed it was a major mistake to deploy the main command post of COMZ to the continent in early August. SHAEF would have been better served if COMZ had waited until the first three or four base, intermediate, and advanced sections were functional and their communications' networks well established. The other benefit of

¹¹⁰ MG Henry Aurand, "SHAEF-ETOUSA-COMZ: A Lesson in Organization for National Defense," 17 July 1946, 18-19. Henry Aurand Papers, DDE Presidential Library.

waiting was that the command could occupy its final location (somewhere near Paris) with only one move rather than jumping to Normandy facing the prospect of displacing again in the near future.

The first requirement to make phased deployment to the continent work was to break the SOS staff into two independent elements. One element would remain in Britain while the other displaced to France. Lee also needed unencumbered but experienced base, intermediate, and advanced sections ready to deploy as soon as conditions called for them.¹¹¹ In theory COMZ had done this by forming a FECZ and an ADSEC and assigning them to help 1st Army and FUSAG plan and prepare for Overlord, and by creating Base Section No. 1 on 1 May 1944, employing the commander, COL Roy W. Grower, and staff from the old Eastern Base Section in the U.K.¹¹² As part of Reverse Bolero, Eastern Base section had been notified of these plans several months prior to the original invasion date, and reorganization and planning had intensified in March based on the assumption that the organization would take over eastern Brittany as soon as it could displace ADSEC.¹¹³ Base Section No. 1 was quickly followed by Base Second No. 2 in late May, which formed around the old Northern Ireland command under General Collins, and it was slated to replace the ADSEC in the Cotentin area. Tentative plans to create an intermediate section using the Central Base Section staff were also made. Aurand was either unaware that these steps had been taken or considered early May and June too late for the formation of the first two base sections.

COMZ needed three or four base sections ready to deploy quickly to the continent once the invasion started, but it also needed to sequence those commands into Normandy in a logical

¹¹¹ Aurand, 18.

¹¹² Ruppenthal, Vol. I, 216-217.

¹¹³ Ibid, 217.

fashion. Aurand believed that the first base section should have gone into France accompanied by ADSEC right on the heels of 1st Army. This would have allowed the base section to run what would become the Normandy regional command from day one, with ADSEC assigned its doctrinal role of maintaining a small reserve of supplies and issuing them in a combat configuration directly to 1st Army.¹¹⁴ Instead of this more elegant solution, Plank's ADSEC was forced to shoulder both burdens, while also serving as the operational logistics planners for FUSA and the U.S. element at 21st AG. Aurand also would have brought in an intermediate section as the third major command element on the continent once the gap between Normandy base and ADSEC was too large for two sections to communicate easily with one another. Under Aurand's plan, COMZ would have been one of the last units to displace to the continent, going straight into well-resourced facilities around Paris.

As we have seen, what actually happened was that the FECZ was disbanded before it was in charge of anything and COMZ deployed to Normandy in early August, working at Valognes for about three weeks before moving again to Paris. Any detailed study of the terrain and infrastructure of their potential operating area was rendered worthless when Base Sections 1, 2, and 3 were assigned to different locations than the ones they had been told they would occupy while still in the U.K.¹¹⁵ Normandy Base Section was not built from any of the teams assembled in the U.K., instead evolving from an area command first established by Plank on 11 July to run Cherbourg. The core of the command was the 4th Major Port, commanded by COL Cleveland Sibley, an old hand from Ross's OCOT who had accompanied Plank to North Africa in January 1944 during the ADSEC observation tour. Ten days later the port command was upgraded to the

¹¹⁴ Aurand, 18.

¹¹⁵ Ruppenthal, Vol. II, 32. Section 1 was told they would assume Brittany. Section 2 would run the Cotentin Peninsula. Section 3 was told to focus on the Seine ports.

Cherbourg Command under Colonel Wyman and reinforced with elements that had been earmarked for Base Section No. 3.¹¹⁶ This left Base Section No. 2, originally slated to take over the area around Cherbourg, in limbo, and its deployment to the continent was postponed twice during the second half of July. Cherbourg Base Section was formally established on 16 August and absorbed the remainder of the personnel aligned with Base Section No. 3.¹¹⁷

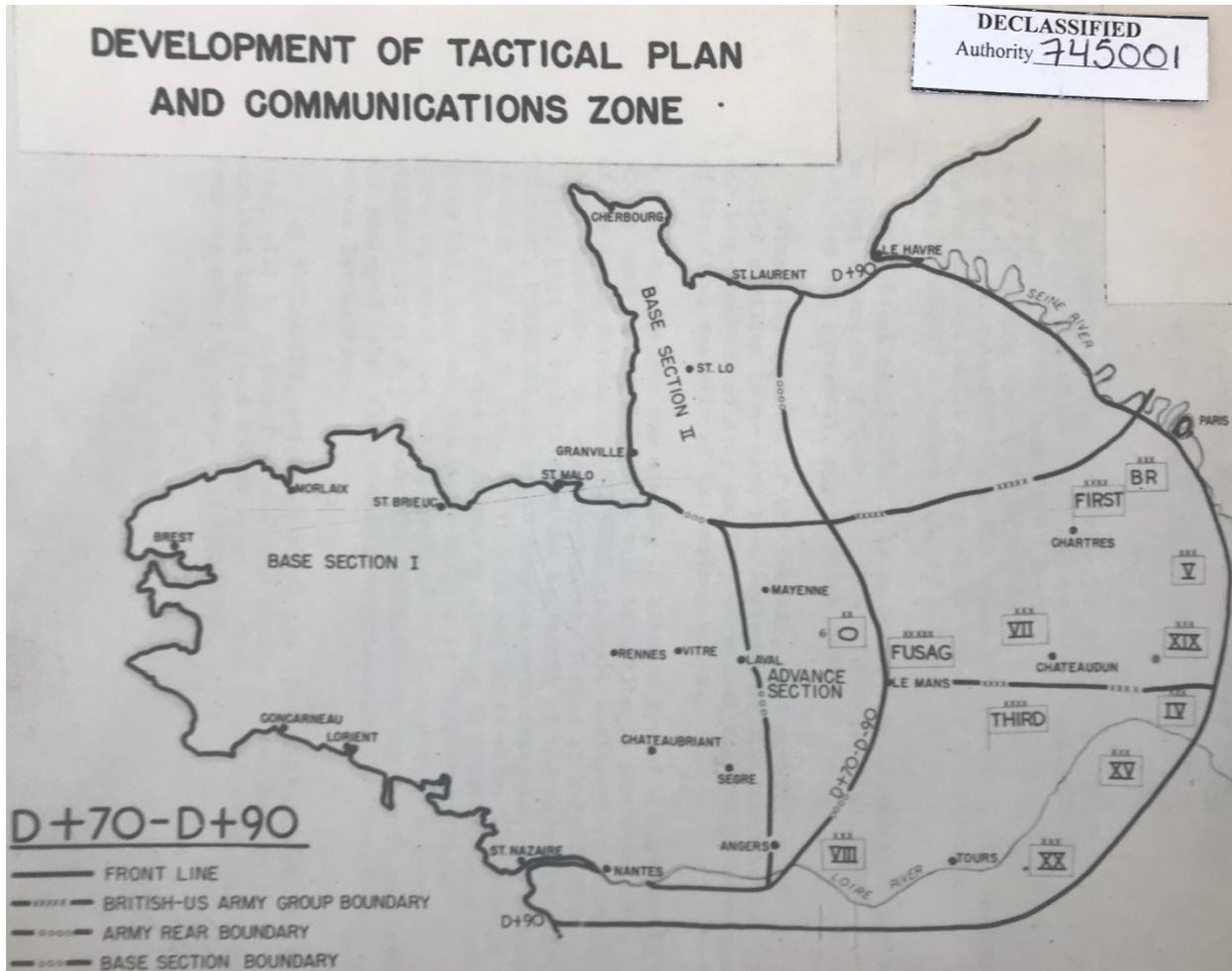


Figure 6.3: Projected base section assignments and boundaries by D+90¹¹⁸

¹¹⁶ Ruppenthal, Vol II., 33.

¹¹⁷ Ibid, 34. It would later be renamed the Normandy Base Section.

¹¹⁸ From the 14 May COMZ Plan developed by FECZ.

Base Section No. 1 was employed to run the Brittany Base Section as originally planned, arriving at Utah Beach on 3 August with instructions to proceed to Rennes as soon as practical. Base Section No. 2 was initially reoriented from Cherbourg to Brest, but on 5 September BG Collins was told he would establish the Loire Base Section (LBS) operating out of Le Mans instead.¹¹⁹ Throughout September LBS acted as both an intermediate base and provided direct support to Third Army. BG Rogers activated the Seine Base Section about a week and a half earlier, reaching Paris on 24 August. Colonel Jacobs, originally the commander of Base Section No. 3, was moved over to Base Section No. 4 when his staff was absorbed by Cherbourg Base Command. On 3 September Jacobs was directed to Fontainebleau where he activated the Oise Base Section. BG Thrasher was told at the same time that he would activate the Channel Base Section the following week.¹²⁰ But on 15 September the COMZ decided to flip flop the assignments, aligning Jacobs and Section 4 to the Channel command and Thrasher to run Oise Base Section. Jacobs took over the management of Le Havre in early October, and Thrasher occupied a small sliver of land between the Seine Base and Plank's ADSEC.¹²¹

¹¹⁹ Ibid, 34-35.

¹²⁰ Ibid, 36.

¹²¹ Ibid, 37.

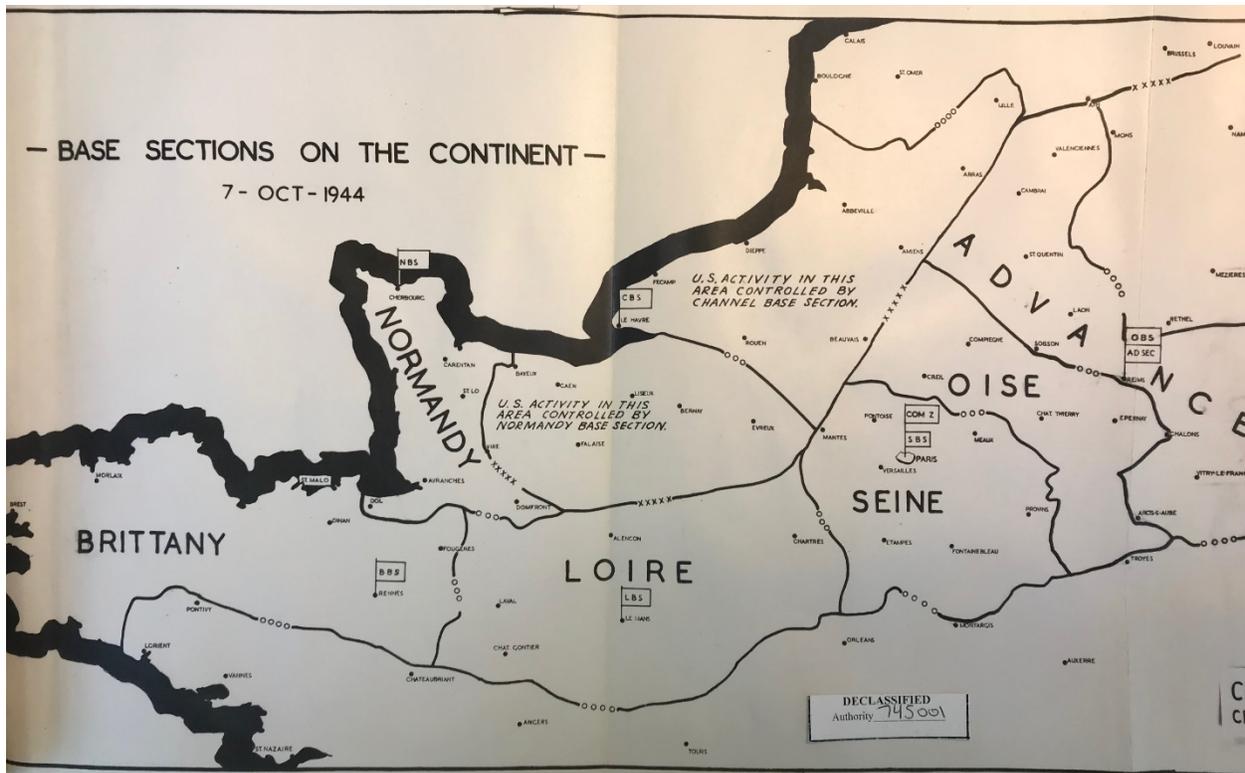


Figure 6.4: COMZ base area boundaries on 7 Oct 44

If it is difficult for the reader to keep up with all of these changes, imagine the effect on the base section staff and assigned service troops. Flexibility is a virtue in military organizations, and it was commendable that COMZ was willing to change plans in order to exploit opportunities when they presented themselves. But there are also advantages to assigning a unit a mission and giving them time to study the operating area in detail. Aurand would have argued that running a base section was very different from running an intermediate section and that the personnel originally earmarked against Base Section No. 3, which formed under the assumption that it would serve as an intermediate section, should have formed Oise Section rather than augmenting Normandy. Out of six section commands, only one ended up in the geographical area against which it was first aligned, and every command experienced significant changes to its primary mission. It is hard to imagine how the COMZ could have produced a

more jumbled array of base section assignments in France. Perhaps Lee believed that all of his base section teams were interchangeable, or that there was no practical benefit to be had from a detailed study of the geography of a region prior to working there. It is more likely that Lee was never invested in the original guidance governing which staff would go into what region in France, planning to retain flexibility as the situation developed. Once the campaign began to unfold, leaders at COMZ ignored or were perhaps even unaware of what earlier plans had directed.

In addition to a jumbled-up deployment schedule and to endless change in assigned missions, the base sections also had to contend with what Aurand believed was micromanagement or over-centralization on the part of the ETOUSA staff. He was particularly upset with Ross's OCOT and what he considered its poor management of trucks and trains. Aurand believed that decentralization of power from ETOUSA/COMZ to the base sections would have helped solve some of the problems with transportation and stock control. To really make this work, Aurand thought that COMZ needed fewer, larger base sections. One large Channel command would have controlled all of the northern ports, base depots, and transportation up to the Seine. One intermediate section would have supervised transloading across the Seine and run the intermediate depots. The ADSEC would have controlled everything north and east of Reims until Antwerp was opened.¹²² All transportation and service troops would have been distributed among these three commands, which would have enforced routine maintenance on the truck fleet, demanded the exchange of empty rail cars before handing over loaded ones on the journey to the east, and established Red Ball transfer points to exchange

¹²² Aurand, 13, 20.

drivers and service vehicles.¹²³ Aurand's argument was that base and district commanders could have enforced discipline and synchronized multi-service projects better than the ETOUSA special staff or COMZ general staff could. Aurand was correct that some of the base section leaders had experience with these sorts of tasks based on their time in the U.K., but Aurand also ignored the fact that nothing prevented the base section commanders from taking these steps using their own initiative under the construct established by ETOUSA and COMZ. He implied that Ross convinced Lee to exclude base commanders from managing the truck routes, rail lines, and service troops who manned them, but nothing stood in the way of centralized planning and decentralized supervision of the motorized and rail distribution networks. Aurand also ignored the fact that at the height of the pursuit most of the base sections had not yet been established. His alternative approach might have helped in October and November but not in August and September.

Clay's perspective on what was wrong in the relationship between the base sections and COMZ was that the officers in the command knew what needed to be done but lacked the authority to override directions coming from the technical service chiefs in Paris.¹²⁴ The colonel in charge of port clearance had run the port of Philadelphia before the war, and he really knew his business, but he had no authority over transportation assets once the supplies were unloaded from the ships. Clay decided to stop discharging supplies over the beaches, to place mud-locked depots off limits for the storage of new supplies, and to focus his energy on moving supplies from the docks to temporary storage facilities adjacent to the rail network. Next he visited Ross in Paris and convinced the chief of transportation to surrender local control of trains around

¹²³ Ibid, 15-16.

¹²⁴ MG Lucius. D Clay, interviewed by Jean Smith, 14 January 1971, interview 13, transcript, OH-285, Dwight D. Eisenhower Presidential Library (DDE PL), Abilene, KS, 437.

Cherbourg to the port commander. Soon 10,000 tons of supplies a day were being shipped out of Normandy base section and the old beach depots had been eliminated, with the material stored there hauled out, catalogued, and integrated with the new depots along the rail line. Clay was credited with “fixing” Cherbourg in less than a month. The reality was that bad weather had largely put an end to beach unloading and Cherbourg had been replaced by Antwerp as the most important port for material destined for the combat divisions. Clay credited the turn-around to his ability to empower the staff and free them from micromanagement from Paris. There were advantages to being a major general with friends at SHAEF; Clay had direct access to the service chiefs of which a colonel could only dream. In late November Clay was replaced by MG Aurand and returned to the ASF. He took back with him the impression that skilled officers who knew exactly what they needed to do were being held back by a COMZ committed to over-centralization.

Conclusion

The easiest way to master a new task is by doing it – day in and day out with as few distractions as possible. The best way to prepare for a future task is similar, made easier by lessons and tips offered by friends and peers with practical experience. Lee’s SOS had two disadvantages precluding these measures. First, the command was wise enough to create ADSEC and FECZ and to resource them with quality people. ADSEC and FECZ were absolved of distractions and placed close to the combat units they would support in France. The natural temptation for SOS was to leave them alone so they could get on with the work they had been directed to accomplish. Second, SOS had plenty of work on its plate. The heaviest flow of U.S. personnel and equipment occurred in 1944; the staff at Cheltenham and its five base sections

were overwhelmed receiving and integrating this avalanche of material. SOS also had responsibility for Reverse Bolero, or the mounting plan for Overlord, and this consumed the special staff and base sections during the period when ADSEC gained its first practical experience in supporting combat operations.

Seen in perfect hindsight, COMZ's failure to sustain the pace of the pursuit and keep the Germans on the run could be attributed to one factor; the command was incapable of managing a theater requisition system based on prioritized demands from combat units. U.S. logistics doctrine and the systems used for Bolero and the initial plan for Overlord relied on push-based resupply regulated by consumption projections based upon validated historical data. There were obvious advantages to using such an approach. First, it mitigated the limitations imposed by the signal equipment available at the time; and, second, it did not demand perfect accuracy when it came to collating and prioritizing often-changing demand signals from a large group of competing sources. It also had the advantage of working without the need for perfectly accurate theater inventory lists of the supplies already downloaded and stashed across the countryside. But this preferred method for deciding what to ship to the front broke down in the fall of 1944 for two major reasons. A shortage of transportation forced COMZ to get directly involved in deciding what would be pulled off a ship or depot shelf and delivered to the armies and air forces, which exposed the absence of effective two-way dialogue between 12th AG and COMZ, robust and well-known systems, and designated organizations to perform this role. Second, ADSEC had allowed, or was forced to accept, the non-traditional methods employed by 1st Army to requisition supplies and, more importantly, shortcuts in inventory management adopted by the various service depots scattered across Normandy. When COMZ took over responsibility for the rear area from ADSEC in early August, they had almost no idea where all the supplies were that

had been unloaded from ships over the last two months. There were no well-organized lists to help COMZ determine what was already on the continent and where that material was located, nor were there consolidated lists of what the armies were missing that had been placed on backorder with the command that ran the port of New York. Even if COMZ had enough trains and trucks to move everything desired and perfectly accurate inventory and requisition records to inform the process, the theater quickly discovered that some of the historical consumption estimates used as gospel by the ASF, especially those designed to regulate artillery ammunition, repair parts, and vehicle replacement, were too low. COMZ was forced to develop ways to overcome all three linked problems under the most complex conditions imaginable and, unsurprisingly, struggled to do so.

COMZ had to completely revamp the theater requisition program, the process used to allocate the different types of transportation assets, and the internal organization of the ETOUSA G-4 section in order to survive under the conditions they inherited in France. The requisition and inventory management systems were overhauled and generally functional by early November, but they were not completely fixed when the Germans surrendered in May 1945. COMZ eventually decided that the best solution to the transportation crisis was to gradually surrender control over the network -- and the associated coordination with SHAEF, the armies, and the base sections -- back to OCOT during the winter of 1944-1945. OCOT found this easier to manage because they had always maintained a theater-wide, operational perspective and U.S. doctrine allocated this role to the quartermaster and transportation special staffs. Furthermore, Ross's officers were educated and trained, and had enough practical experience, to direct the flow of theater transportation assets under combat conditions. COMZ would eventually force the ASF to accept their more accurate consumption estimates, but not until very late in the war. In

the meantime, U.S. armies found unorthodox methods to ensure that they had enough of those supplies that were rapidly consumed to survive during the spring campaign.

These systematic difficulties with the theater supply system were amplified, not mitigated, by friction and personal animosity that existed between COMZ and FUSAG and between the combat and support communities in general. There was a long history of poor communication and bad blood between SOS and the operational units they supported, a problem repeatedly commented upon by various external observers, including Lutes and Gale. Lee and his staff did not attend SHAEF meetings unless ordered to do so, did not have effective liaison officers down at the army and army group level, and struggled to communicate effectively with 12th AG and 21st AG.¹²⁵ ADSEC should have been the mechanism for effective coordination with 12th Army Group. Moses and Bradley trusted Plank, but for some reason ADSEC's positive reputation did not seem to transfer to COMZ. Lord and Stratton's visits to combat units could not overcome the historical animosity, and in some instances they made it worse.¹²⁶ It seems that by the time the logistical crisis emerged, it was too late for Lee and COMZ to salvage their reputation with the other headquarters with which they were supposed to work closely.

The impact of COMZ's struggles on the campaign was significant and avoidable. The most significant manifestation of a breakdown in theater logistics was the culmination of the

¹²⁵ Letter Gale to Lee, 18 Apr 44. Gale Papers, Section 1, Entry 2, Secretary of the CAO, SHAEF. Gale was writing Lee to inform him that Eisenhower expected him to attend his weekly CINC meetings in the future. On 5 October Gale wrote in his diary that he and Hughes had agreed one of the most important reasons COMZ was struggling was because they did not understand the operational situation, avoided meetings at SHAEF held to share that information, and did not have an open line of communication with the army groups. 12th Army Group dismissed COMZ as irrelevant in August, followed by 21st AG in mid-September. Gale came to the same conclusion himself in early September.

¹²⁶ COL Poole, Memo for Record, meeting with BG Stratton, 21 Sep 44, WO 171/ 146 Q Plans, National Archives, Kew. Poole met with the Americans, who were accompanied by MG Napier from SHAEF, as the senior administrative officer present at the 21st AG main headquarters. The meeting was not productive, and it disturbed COL Poole, who felt Stratton's suggestions about sharing rolling stock, ports, and beaches were unreasonable and likely to interfere with British attempts to get their supply system back on its feet.

Allied pursuit that occurred between 5 and 26 September and the failure to win the race to build up combat power along the Westwall that would have permitted Eisenhower to mount a major offensive designed to allow a return to a war of movement. This is not to say that logistics was the sole, or even primary, reason for the end of the pursuit phase. It is also far-fetched to suggest that the Allies could have crossed the Rhine and held on to a bridgehead in October or November in the face of German counterattacks. It is beyond the scope of this work to examine in any detail what might have happened if the Allies had gotten another 50 to 100 miles further to the east in September. It seems reasonable that a direct Allied threat to parts of the Ruhr or Saar would have negatively impacted the production of weapons and supplies, undermined German morale, and quite possibly ended the war a few months sooner. Any speculation that an Allied crossing of the Rhine in the fall of 1944 would have triggered a German internal revolt against Hitler leading to an immediate surrender seems highly unlikely.

When COMZ established shop at Valognes on 7 August, members of the command had a wide range of combat experience. Old hands from ETOUSA and officers that had been detached to FECZ had months and, in some cases, years of familiarity with the details associated with the sustainment plan, and FECZ had already been on the continent shadowing ADSEC for about a month. But the COMZ general staff came directly from London and Cheltenham, where they had been consumed with daily administrative operations in the U.K. and the work of equipping U.S. units and establishing theater reserve stocks through meticulous coordination with the ASF and its technical service sections. For many of the officers at COMZ, arrival in France triggered their first thoughts about how their roles would change in combat. Surrounded by organizations with more practical experience, COMZ's early performance reinforced the impression that the command did not know what it was doing. But Lee had created a disciplined

outfit that was committed to learning and getting better, and by late October they had worked through most of the bugs and established effective procedures to manage the zone of communications and support the combat units. However, COMZ grew into its role too late to allow Lee to make a positive impact on extending the reach of the pursuit into western Germany. If COMZ did not trigger the end of the pursuit, they slowed Allied recovery afterwards, clearly contributing to the failure to return to mobile operations in late September and October.

In the next chapter, we will examine how COMZ executed the sustainment mission during the pursuit across France, especially its efforts to harness the fleet of supply trucks and cargo aircraft at SHAEF's disposal, and the early operations of the military pipeline service charged with running the bulk POL distribution lines. Finally, it is helpful to see how 21st Army Group managed logistics at their level and to see the problems their system seemed to avoid, and the challenges that seemed to be universal among all the large Allied organizations. The experiences of the British 21st AG suggest that adequate resources existed to accomplish more than that fall, but that COMZ lacked the expertise to use those assets effectively. The way in which an inexperienced COMZ impeded SHAEF and 12th AG reinforces the point of just how complex and interconnected joint theater level warfare is. Despite years and years of practical experience in the Allied camp, there were still so many unknowns when it came to running a theater of war by the end of the summer of 1944. SHAEF had largely figured out how to function as a joint-combined headquarters, but it struggled to figure out how to take over and manage the ground campaign. COMZ was largely lost when they first took over, their inexperience frustrating Moses, Plank, and 21st AG, who all believed that they better understood the job that COMZ could not master. In the resulting scramble to fill the gaps left by an inexperienced COMZ,

SHAEF ended up taking over the most fundamental aspects of the theater sustainment mission, including integrating and synchronizing the ETOUSA special staff.

Chapter 7 - Trucks, Planes, and Pipelines

This chapter examines how ETOUSA tried to manage the backbone of its transportation system during the pursuit in August and September and how the inability to exploit the full potential of trucks and cargo aircraft contributed to the Allies stopping before they could penetrate the Westwall. Despite a series of decisions formulated above their level that made the sustainment challenge at the theater level much harder to successfully execute, COMZ compounded the situation with poor internal management of the resources that were available. Working hand in hand with their superiors at SHAEF, Lee and Ross failed to mass and focus the only relevant transportation assets that might have sustained an Allied push up to the Rhine before the German Army could recover. Despite two years of practical experience supervising logistics at the theater level and the support of highly qualified organizations beneath them, COMZ proved themselves incapable of making hard choices and ruthlessly controlling how the truck and cargo aircraft fleet were employed in order to enforce priorities within the theater. As was the case with so many other tasks assigned to the COMZ that summer, the organization was incapable of accomplishing the mission. Lee and his subordinates were once again incapable of building and empowering subordinate commands resourced with an array of capabilities from all of the technical services. Since Lee refused to create combined-service organizations with permission to operate freely across base section boundaries, it was incumbent upon COMZ to synchronize these interactions. This was the case with the Motor Transport Brigade (MTB), Military Pipeline Service (MPS), and, to a lesser extent, large-scale aerial resupply. Unfortunately for SHAEF, COMZ was not capable of performing this role.

The historical record has generally obscured these internal failures, covering them up by emphasizing conditions beyond the control of ETOUSA, the enormity of the task faced by the

command, and the scope of the work that was successfully carried out. But the bottom line was that COMZ and its Office of the Chief of Transportation (OCOT) could not adjust to the demands of mobile warfare quickly enough and thus wasted motorized transportation capacity by delivering non-essentials to the front while combat commanders were pleading for fuel and ammunition. In COMZ's defense, massed, long-ranged motor and aerial transport operations were new and untested concepts within the U.S. Army at the end of July 1944, at least in the ETO. Perhaps Lee and Ross could have picked up a few more tips from the methods perfected by AFHQ and NATOSA in North Africa and Italy, but the lateness in organizing both the MTB and Combined Air Transport Operations Room (CATOR) made this extremely difficult. Logisticians at SHAEF and COMZ and in the two army groups could not convince their superiors to use the 1,300 cargo planes at their disposal to relentlessly support sustainment operations at the expense of preparing for airborne drops, and they had not worked out the detailed procedures to control this effort even if they had been authorized to pursue it. Finally, ETOUSA grappled with the problem of how to best organize and operate a POL pipeline service in France, taking until mid-October to build a multi-service command with the resources and know-how to shoulder the burden of moving bulk fuel over great distances without needing resources or staff support from base sections or COMZ.

One area where COMZ succeeded beyond any reasonable expectation was the repair work done on the transportation infrastructure in August and September. The preparation for the varied challenges presented by the port at Cherbourg were thorough and ingenious. This combined-service repair team went on to help restore all of the major ports used by SHAEF in 1944. COMZ put in a similarly effective performance in rebuilding the rail lines between Normandy and the western bank of the Seine, which included fixing or constructing dozens of

bridges along the way. The U.S. Army had anticipated these challenges, resourced enough units with adequate supplies, and had well-established headquarters to synchronize the activity of the various engineer battalions, regiments, and groups. It helped that these were engineer tasks, run by long-service and professional officers employing well-trained units equipped with organic motor transportation companies. In hindsight, this capability provided an excellent model for how to accomplish other complex tasks in the rear areas of the theater.

One source of insight into the logistical challenges confronting SHAEF and COMZ that has been generally ignored was the comparative experience of 21st Army Group and its efforts to sustain their advancing units. By looking at the British approach to running a line of communications, one gains a better appreciation of what the U.S. Army did well and areas where improvement might have been possible. Similarities in the two national approaches to managing logistics seemed to outnumber the differences, but in general 21st Army Group seemed better able to manage their large fleet of general transport (GT) truck companies and scope operational objectives based on supply constraints. Montgomery took action at the end of August to free up over half of his pool of truck companies tied down around Bayeux and reorient them on long-distance hauling along the line of communications. The British commander was very deliberate about matching maneuver objectives to the supplies and transportation assets required to accomplish them, embracing sequential thrusts if necessary, and using the minimal number of troops he believed could get the job done. Senior leaders at 21st Army demanded constant and effective communications between the maneuver and sustainment communities, and was more successful in maintaining tight command and control along the entire line of communications throughout the dash across France than Lee. To some extent this was because the British were responsible for a much smaller portion of the theater logistics mission, but it also revealed the

greater level of practical experience among their logistical headquarters and units as well as the close relationship between the 21st HQ staff and their associates in the L of C command.

It is easy to claim that COMZ was ineffective when it came to controlling motorized resupply during the pursuit, but what exactly did the organization fail to do that resulted in Bradley not accomplishing his objectives before the German Army recovered? The first and simplest answer is that COMZ could not deliver enough fuel to the vanguard corps of 1st and 3rd Armies to maintain a steady rate of advance during the last week of August and the first week of September. These fuel shortages had been accurately predicted well in advance, and they resulted in what could be considered relatively minor disruptions to the pace of Allied operations. But the dozen times that a U.S. division was forced to remain stationary for 24 to 48 hours awaiting fuel during those crucial two weeks had a disproportionate effect on the Allied fall campaign. Patton and Hodges could not maintain steady pressure with enough weight of forces to keep the Germans on the run. Each successful rearguard action that bought the Germans a day or two to scrape together reinforcements to man the Westwall and the line of the Moselle was critical to their chances of successfully shielding the factories of the Saar and Ruhr from Allied occupation. The rearguards in front of 1st and 3rd Army would have been easily bypassed, encircled, and overrun if the U.S. could have kept the front-line divisions on the move without having to stop for days at a time awaiting fuel. Options existed by which SHAEF and ETOUSA could have moved more fuel to the front or else better focused the use of the fuel that did make it forward. The margin between success and failure was so narrow in early September that a very small increase in delivery tonnages would have made a major difference in the outcome of the fall campaign.

It is true that internal issues hurt COMZ's efficiency during the pursuit, but these problems were compounded by external distractions beyond Lee's control. The civilian population of Paris required immediate support after the city's liberation in late August. The U.S. Army exhibited a strange pre-occupation with reducing the German garrison of Brest in mid-September, an activity that ended up competing for the attention of staff officers, transportation assets, and artillery ammunition desperately needed elsewhere in the theater. Once the 1st Allied Airborne Army was created, it seemingly generated a powerful gravitational pull on senior leaders to use it, freezing almost 1,200 C47 air transport aircraft capable of moving 3,000 tons of supplies a day while an argument raged over the relative merits of aerial resupply versus airborne envelopment. Montgomery put more energy into seizing a few channel ports and getting ready for Market Garden than he did into executing Eisenhower's order to clear the approaches to Antwerp. Finally, Bradley ignored Montgomery's repeated calls to prioritize 1st Army and continued to split his supplies between Hodges and Patton. Lee did not try, or could not, to convince Eisenhower to change his mind on each of these issues – and he even encouraged Eisenhower to green light 12th AG again on 12 September. This made COMZ's mission that much harder.

The result was the near-simultaneous end of pursuit operations in all three advancing armies at the end of the first week of September, forcing COMZ to confront a very different sustainment challenge. Theater logistics no longer revolved principally around keeping half-a-dozen corps supplied with fuel, expanding to a much wider range of critical categories of items. Furthermore, when Eisenhower agreed to get behind Market Garden, SHAEF was forced to shift resources from COMZ and 12th Army Group to 21st Army Group, finally supporting the main effort in the theater as Montgomery had been demanding since the crossing of the Seine. When

the operation failed, Allied material requirements in the combat zone skyrocketed. Now everyone called for the immediate delivery of the full range of supplies needed to break through a new defensive crust while simultaneously replacing worn out and discarded equipment. Yet more transportation assets were required to move left behind combat formations up to the front lines and sustain them once they arrived. Even as the transportation infrastructure of France was being repaired and augmented by using imported resources, soaring demands at the front overwhelmed any increase in carrying capacity. If the Allies hoped to get the Germans on the run again in mid-September and October in the U.S. sector, COMZ would have to quickly overcome the difficulties that had hobbled their efforts in August and in the first half of September. Fortunately for the Germans, SHAEF and COMZ could not restore sufficient rail service to the front, rebuild the truck fleet, or overcome their inability to find what was already on the continent and deliver essentials to the combat formations in time to restore mobility before bad weather and a hardening defense made the challenge much more difficult. Logistical recovery demanded above all other things time -- time put to good use by the Germans to solidify the defense of their western border.

ETOUSA's OCOT and Theater Distribution During the Pursuit

It is safe to assume that U.S. officers in SHAEF and ETOUSA knew that the Office of the Chief of Transportation, under the direction of MG Frank S. Ross, was going to play a critical role after the breakout from the lodgment area. Although the engineers had responsibility for repairing damaged ports, bridges, roads, and rail lines, Ross would manage the theater transportation network once it was back in operation. Everyone who had studied the problem knew that distributing Allied supplies over continental distances was going to be a tough task, and a few knowledgeable officers suspected it would be impossible until the rail network began

to pick up some of the slack starting around D+60 to D+90. Until then, the Allies would have to rely exclusively on motor transport, and the experts worried that COMZ did not have enough truck companies with the right equipment to keep significant forces supplied beyond the Seine. If asked in May 1944, the logisticians at SHAEF and ETOUSA would have pointed to transportation shortages as their primary concern for the coming campaign.

Ross's OCOT had responsibility for all possible bottlenecks in the distribution system. Transportation troops ran the ports, were responsible for managing the inland waterways, and manned the units that formed the Military Rail Service (MRS). The Transportation Corps of the U.S. Army did not generate and supervise truck units (this responsibility belonged to the Quartermaster Corps), but Ross was responsible for their performance and had technical control of the fleet on the continent. Aerial transport was scattered through the numbered, tactical air forces, USSTAF, and 1st Allied Airborne Army once it was formed, and the massed hauling capacity of these cargo aircraft was managed by AEAFF and SHAEF G-3. Ross knew aerial resupply was another method his staff could call on to distribute supplies, but at first the U.S. Army looked to aircraft for emergency, small-scale deliveries only.

An advantage held by OCOT was the similarity between their role in the U.K. and their role in France. Major differences included the fact that, at least initially, the French network would be in bad shape as a result of both friendly and enemy combat action, that the Allies would eventually have to rely on French civilian labor to maintain and run the railroad, and that cross-boundary coordination among various base sections would be a critical task for OCOT or COMZ if the system was to function efficiently. After two years' experience working with British civilians, Ross's officers had learned how to unload ships and manage port operations, control truck and rail convoys, and disperse supplies into widely scattered depots and then

retrieve that material on short notice when required. The pace, scope, and complexity of operations in France would be more intense, but OCOT had hands-on experience in the procedures associated with their mission and had practiced under some of the conditions they would find in France. It is not surprising that OCOT grew frustrated with COMZ efforts to control or supervise their work in the fall, viewing the command as inexperienced newcomers that only got in their way.

Ross had monitored and contributed to operational planning for Roundup/Overlord since July 1943, and he remained heavily engaged with SHAEF and FUSAG during the spring of 1944. But he was also wise enough to realize that he would need good people engaged in operational planning at the levels below COMZ and on the ground in France during the earliest days of the campaign. Ross assigned high-quality officers to head the transportation sections within ADSEC and FECZ, and he monitored their progress closely. His plan to weather the early disruption of command and control associated with the phased deployment of headquarters to the continent was to deploy strong transportation staff sections with both ADSEC and FECZ and then to centralize COMZ long-haul truck operations under the Motor Transport Brigade until he could bring the rest of OCOT to France and get the rail system up and running.

Ross anticipated a couple of critical transition points during the campaign linked to the transfer of authority among headquarters or a change in the primary means of long-distance transportation. At some point the Allies would break out of their lodgment in the Cotentin Peninsula and advance into Brittany and towards Paris, relying exclusively on trucks until the pace of the exploitation slowed down enough for engineers to restore rail service to the army and service to corps depots west of the Seine. The official story was that at this point the Allies would halt until the line of communications was restored right up to the Seine, but Ross had

planned for the most demanding scenario while crafting his request for forces and equipment in the summer of 1943. Perhaps remembering the sudden change of plans implemented in North Africa, Ross understood that he needed options in case SHAEF directed a continuation of the pursuit beyond the Seine before sorting out the railroads. Ross also worried about a drift in centralized control over transportation assets while he displaced his main headquarters between the U.K. and France, and he relied on trusted subordinates who understood his methods and philosophy in order to weather the surprises he knew would develop once they were in contact with the enemy.

Ross' foresight in putting in place measures to manage friction was impressive, but ultimately insufficient. Any system that relies on centralized control needs an accurate appraisal of current conditions. It must be able to determine where transportation resources are and to direct their movement through the use of a robust communications network fed by disciplined units employing well-understood reporting procedures. Unfortunately for OCOT, too many of these variables were beyond Ross's control that summer. Allied command and control broke down across many echelons during the second half of August, outrunning the range of radios and the speed of signal units laying new wire. At the height of the pursuit, couriers mounted on motorcycles or jeeps became the most reliable means of long-range communication. The Motor Transport Brigade (MTB), tailor-built to manage the consolidated efforts of scores of truck companies over hundreds of miles of roads, was stymied by limitations in communications technology and problematic lines of authority among themselves, three base sections, and COMZ headquarters. None of these U.S. organizations could figure out how to position control nodes along the Red Ball to maintain situational awareness and orchestrate the service units involved.

Providing fuel at the front had always been a matter of concern during mobile operations, both because of the massive amount required and the need for specialized equipment to move it efficiently. One of the easiest logistical estimates to explain to senior leaders was the linkage between the amount of fuel that nine heavy and five light POL truck companies could shuttle 200 miles every 24 hours and the daily consumption rate of a corps containing three divisions. This simple arithmetic dictated that the U.S. Army could sustain five corps at the end of a line of communication that was 200 miles long, with about 300 surplus tons that could be used to support fighter groups or critical units assigned at the army or army group level. Each block of 200 C47s committed to aerial resupply would fuel another corps, if there were enough barrels or jerry cans to hold the gas. Extending this system beyond 200 miles or asking it to maintain a steady flow for weeks on end was problematic; pressure on the truck companies could only be relieved by shifting some of the volume over to the POL pipelines, opening a bulk POL port closer to the front, or using trains to cover some of the distance.

Bradley was quickly forced to modify his scheme of maneuver to deal with these limitations; on the day he crossed the Seine he was already operating at the maximum range to which five corps could be steadily supplied with fuel. The advance dropped from five to four corps almost immediately, and even these twelve divisions could not be resupplied on a consistent basis. On some days entire corps were immobilized awaiting the delivery of fuel, and by late August direct pressure was maintained on the Germans by as little as a single division or combat command in front of each U.S. corps. Realistically COMZ only had enough POL trucks to sustain six divisions covered by some close air support between the Seine and the Meuse/Moselle without significant assistance from aerial or rail transport, and, even then, this

would have required the ruthless massing of every specialized truck company, hundreds of C47s, and the service units required to maintain this force.

But the special staff at ETOUSA seemed incapable of convincing senior leaders, including LTG Lee, that these limitations could not be wished away. Planners at 21st AG and 1st Allied Airborne Army repeatedly found excuses to shield the C47 fleet from getting tied down with routine resupply missions at the same time theater logisticians repeatedly emphasized that the only way to sustain a drive beyond the Seine was by committing at least 800 aircraft daily. Eisenhower and Bradley refused to acknowledge the simple math that showed that the Americans could sustain only two to three corps between Paris and the northern half of the Westwall if they relied exclusively on motor transport. In order to sustain a drive over the Moselle between Metz and Nancy (almost 500 driving miles from Cherbourg) by one U.S. corps required the commitment of every bulk fuel company in ETOUSA. Patton's thrust was the hardest to resupply using only trucks while offering the most remote operational payoff. Montgomery understood these logistical realities and the hard choices they should have forced Eisenhower and Bradley to make, but he could not convince his U.S. partners to act consistently according to these facts.

Under trying conditions OCOT did the best it could. The fact that four U.S. corps continued to advance in fits and starts all the way to the Meuse and Moselle by the first week of September speaks favorably to the feats of improvisation accomplished throughout COMZ. It is difficult to determine exactly what was going on from mid-August to early-October because of the collapse of what had been excellent reporting up until that point and because of OCOT's refusal to try to extract accurate operational readiness figures from the QM truck units. It does seem that COMZ was caught off balance by the rapid transition in priorities from the end of the

battle of Falaise to the pursuit across eastern France. Unlike 21st AG, COMZ did not anticipate the criticality of a steady supply of fuel to 1st and 3rd Armies, nor, more importantly, did it take decisive steps to push POL forward and generate more lift assets before a crisis developed at the front. It seems that OCOT anticipated the demands the pursuit would place on the truck companies and tried to organize the Red Ball Express accordingly, but it refused to take measures to meet the first critical requirement, for bulk fuel, even at the expense of other critical supplies.

During the second phase of the Allied attempt to break through the Germans' western defensive frontier, OCOT was forced to make major changes in the composition of the transportation network. The U.S. truck fleet seems to have been largely worn out by mid-September and was withdrawn for recovery and replacement; serviceable trucks were reoriented to Normandy where they resumed port discharge and depot support.¹ ETOUSA relied on the slowly recovering rail system to pick up the slack during the second half of September and throughout October, but shortages in rolling stock and coal prevented them from providing the haul capacity required to meet all demands from the front. COMZ had still not developed a process to extract the critical requirements from the armies and deliver only those items, and some of the already inadequate delivery capacity was wasted as a result. SHAEF and 12th Army Group kept trying to conduct major offensive operations in three army sectors simultaneously, making it difficult to mass the troops and supplies essential to achieving a clean breakthrough anywhere.

¹ Determining the accurate ORR of ETOUSA's truck fleet is impossible. OCOT reported theoretical strengths based on an assumed 83% ORR and made no effort to find out if that assumption remained valid throughout the campaign.

By the end of the first week of October Eisenhower was forced to admit that his theater offensive was in limbo until he could open a major port closer to the front and sort out his requisition and distribution system. Throughout the fall COMZ and OCOT made steady improvements in how they employed the resources at their disposal; ABC ran smoother and was more effective than Red Ball, and XYZ produced truly incredible results during the final offensive across the Rhine into central Germany and beyond.² OCOT portrayed these positive results as a natural result of COMZ getting out of their business and letting them get on with the job they way they knew how to do it, but this is not completely accurate. Both ABC and XYZ showed what OCOT could have accomplished, not only with more motorized transport resources, but, perhaps more importantly, with better coordination and synchronization among the service and combat organizations. Any of these procedural changes could have been implemented in August with the proper base of knowledge and motivation to embrace a different approach. But it took time to recognize the limitations of the system OCOT tried to put in place in July and August to manage long-distance truck operations, develop alternatives, deploy additional command and control nodes, and retrain everyone on the new procedures. The only way to accelerate that learning would have required either mass transfer of more experienced personnel from North Africa and Italy or the wholesale transfer of technical procedures and the organizational approach employed by 21st Army Group. Based on the personnel and time constraints throughout the Allied armies, this was unrealistic. It was always going to be easier to learn by doing rather than by observing or reading, and this took time and, unfortunately for Ross, intermediate failures.

² ABC was the operation, similar to Red Ball, designed to control traffic running from the Chanel ports to the two northern army groups during the fall of 1944. XYZ was the traffic control plan for the invasion of western Germany in the spring of 1945.

The ETOUSA Transportation Section as the Distribution Synchronizer for COMZ

Ross understood that the most important function of his section was to coordinate the distribution of supplies across widely dispersed locations using an eclectic mix of vehicles. OCOT managed to practice these tasks for almost two years in the U.K., relying predominantly on ships and trains to move cargo, but adding trucks to the mix in the last six months of Bolero. These experiences drove home the importance of reliable methods of communication among the control nodes all over the U.K., a carefully orchestrated but constantly refined master plan for distribution at the theater level, and subordinate staffs that could monitor execution and iron out wrinkles as they developed and before they could get out of hand. Lee's SOS staff claimed they would synchronize the interaction between the various base sections and service troops assigned to each region, but Ross saw little in the nine months before the invasion to convince him that they took the job seriously or that they were developing the skills required to turn intent into capability. OCOT realized that at least at first they would be largely on their own and that early mistakes in planning or establishing procedures would be hard to overcome as the campaign progressed. Ross looked back on his personal experience with Torch to provide a good model for overcoming the teething problems of the COMZ headquarters on the continent. OCOT would need strong representation on the ADSEC and FECZ staff, both to drive planning and to supervise operations until Ross could arrive. The theater also needed a command node that could pull together dozens or even hundreds of truck companies (with their associated battalion and regimental headquarters) that might operate across three or four base section boundaries providing a theater-wide long-range distribution network.

As Lee's SOS created new headquarters in February 1944 to plan logistical support for Overlord, Ross ensured that both the ADSEC and FECZ each had strong transportation sections

assigned to them. Colonels Sibley, Koenig, and Gould were assigned to the ADSEC team, which was established at the Selfridges Annex on 7 February 1944.³ As with any new organization, the first month was a bit hectic. The group moved twice and transitioned through three new chiefs in its first five weeks of existence, ending up at Bristol by 20 March under the direction of COL Beeler. The motor transport officer for the section was COL Harold Gould, who started developing the concept for a theater motor transport brigade immediately upon his arrival on 2 March. Sibley was a well-known and trusted agent among the combined operational planning community. He had over a year at OCOT and plenty of connections at COSSAC and among the old ETOUSA staff. The units charged with running Cherbourg and conducting traffic control in Normandy immediately after the invasion, 4th Port and 3rd Regulating Station, provided the core of the new section. A similar team was established under Ross' deputy and operational planner, COL Traub, to work for the FECZ, which was also formed in mid-February.

The creation of a provisional motor transport brigade had to wait a few more months. On 1 May the unit was established and assigned to the ADSEC. LTG Lee himself called COL Richmond, the commander of Depot G-25, that day and directed him to take eighteen men and form the nucleus of a motor transport brigade.⁴ This was a provisional unit with no formal authorization or structure in the organizational tables of the U.S. Army, but similar to a command that had proven useful in the First World War. Ross and Lee envisioned the brigade supervising a number of QM Truck Groups in order to synchronize the activities of 90 to 140 truck companies during the advance to the Seine, to coordinate the support they would receive

³CPT Charles R. DeArman, "Historical Report" 11 Feb 45, HQ ADSEC COMZ Transportation Section, RG 498, UD 1304, Box 6399, NARA II.

⁴ Captain Gordon CP Landon "Part III: The MTB, Transportation Corps in the Battle of France, Vol IV, July-September 1944" RG 498, UD 578, Box 3956, NARA II, 1. The brigade staff would grow to 43 officers and 169 men. Depot G-25 was something of a Potemkin Village that was always shown off to visiting dignitaries from the United States or British ministries.

from the base sections they transited through, and to work closely with the transportation section at the ADSEC and FECZ. Richmond had long-term experience as a cavalry, quartermaster, and ordnance officer under both combat and peacetime conditions.⁵ He had a reputation as a motor transport expert and the background and relationships needed to tackle what everyone knew would be a demanding job.

The motor transport brigade was unique because it was one of the few support units that was not assigned to or answerable to a base section commander, nor was it another technical staff entity with no authority to direct operations. Richmond would exercise command authority over his assigned units, coordinate with base section commanders and their staff as a peer, and be expected to see the entire theater as his zone of operation. But if this scope of authority seemed clear enough to senior leaders at ETOUSA and COMZ, it was never adequately conveyed to all the base section commanders in waiting, which would cause problems in France in August and September. In hindsight, it would have been more effective to directly assign supporting units to Richmond so he could arrange his own rest and service camps and send recover and repair patrols along the major routes rather than relying on five to seven base sections and technical service sections to meet his needs.

In addition to placing trusted agents within ADSEC and FECZ and coaching Lee to stand up the MTB, Ross also took steps to ensure that the support plan for Overlord contained a detailed but useful transportation annex. The final version of the FECZ COMZ plan that was published on 14 May 1944 was a massive product that had been written primarily by the ADSEC staff and included a wide range of useful information applicable to the conditions the command

⁵ Ibid. Richmond enlisted in the cavalry in 1914, moved to QM in 1934, and then ordnance in 1942. He was promoted to COL on 1 February 1944.

thought would exist in France for the first few months. The plan consisted of a 73-page base order with seventeen appendices and twenty-four annexes – the risk was not that something important had been left out but that no one could read and integrate all the component pieces of the plan.⁶ The transportation annex contained a distribution estimate for the first three phases of the operation, and enclosure 2A diagramed tentative supply circuits linking Cherbourg, Le Mans, and Quiberon; ETOUSA hoped that the two ports would be functional by D+60. These traffic circuits were intellectual precursors of the Red Ball Express and other express routes used by ETOUSA; Ross's team had clearly foreseen the need for a tightly managed motorized traffic control effort and had put the organization and plan together to start one on short notice.

⁶ One of the few sections “to be announced” in the base order was the procedures to be followed when troops from one nation were serving in the administrate zone of the other. This oversight would come back to haunt SHAEF at the beginning of Market Garden and will be addressed below.

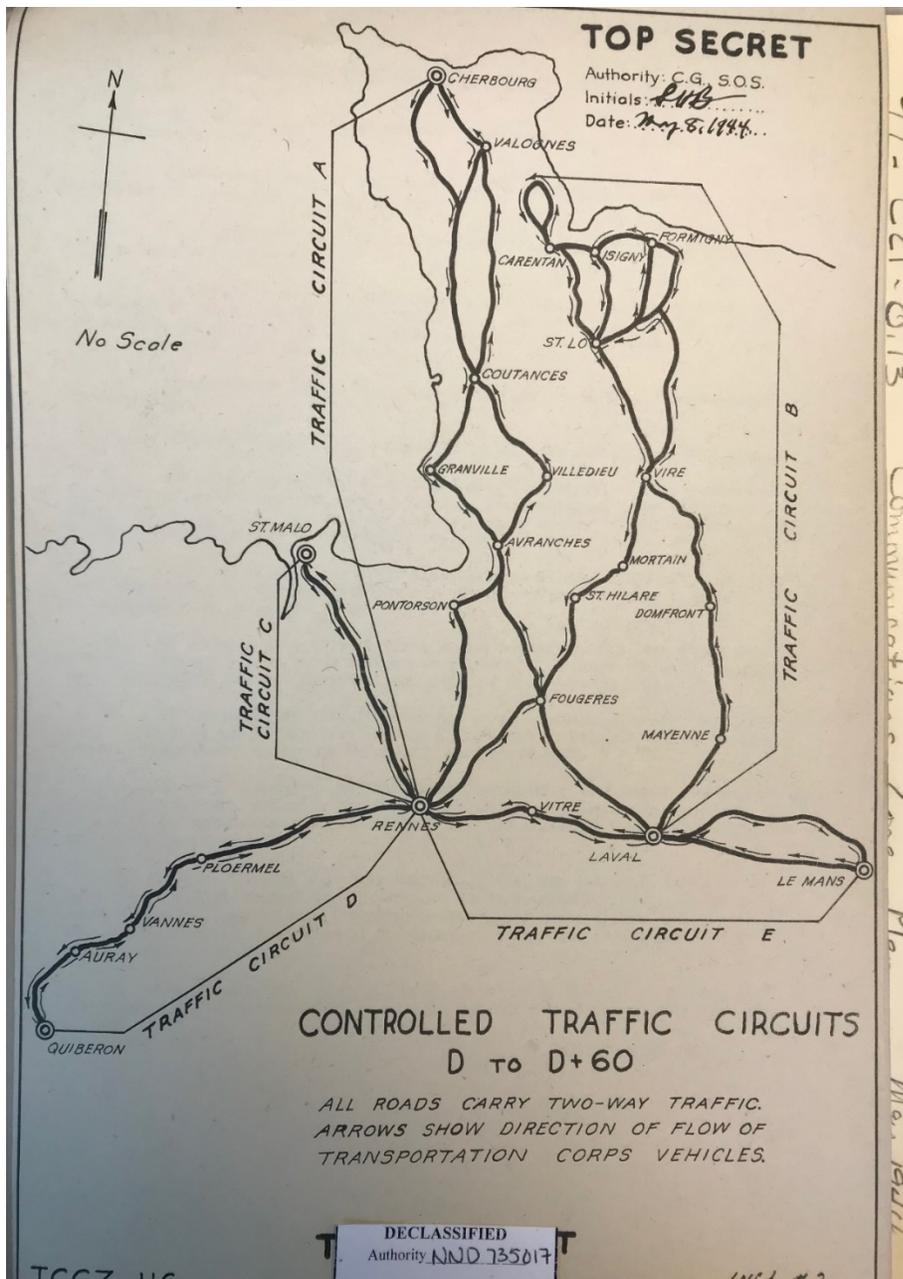


Figure 7.1: Controlled traffic circuits, precursor to the Red Ball Express⁷

The transportation estimate divided the first 90 days of operations in France into three periods or phases, listing the major motor transport and rail units that would be ashore by the end

⁷ HQ, FECZ, "COMZ Plan" 14 May 44, Transportation Annex (13), Enclosure 2A, RG 407, Entry 427, Box 215, NARA II.

of each period and the priority of work for that phase. Phase one ran up to D+25 and would see the deployment of most of the truck companies, 84, with their associated battalion and group headquarters. Seven truck companies would support the engineer special brigades at Utah and Omaha with beach clearance, while the balance worked directly for the MTB. By the second period, running from D+26 to D+41, the ADSEC would need to open Port Saint-Malo and begin to move large quantities of supplies through Cherbourg, calling for 39 more truck companies to work for Base Section No. 1. The third phase would be dominated by the opening of the ports in Brittany and by activation of Base Section No. 2, and it also called for 30 more truck companies to outfit that command. By the end of these first three phases, or D+90, ETOUSA would have 153 QM truck companies ashore (of the 160 requested in block one of the Overload troop basis), not including dump trucks and hauling capacity organic to the engineers. These were not just generalized projections; all 9,433 individual units that would be deployed were listed in time sequence in Appendix I of the COMZ Plan, including the number of personnel, vehicles, and arrival date.⁸

Impressed with the briefing on the COMZ plan that FECZ had delivered a week earlier, Lee had BG Vaughn walk SHAEF through it again, staging a major presentation at Selfridges on 30 May. The event was attended by Gale, Brownjohn, Crawford, Napier, Ravenhill, Vissering, and Whipple from SHAEF, plus key sustainment leaders from 21st, 12th Army Group, 3rd Army, and HQ L of C, 21st AG.⁹ COL Sibley was there from the ADSEC transportation section as well. No comments were captured on the impact of the briefing or on any follow-up work

⁸ This deployment list was not followed; Bradley ensured that he had an alternative list prepared for contingencies, and he ended up landing more combat units through D+60 than originally projected. Ruppenthal makes a big deal out of the fact that the COMZ had only 94 truck companies ashore by the end up July, but, by the time the Red Ball Express was activated, all of the missing truck companies were ashore. By the end of August (D+90), all 160 companies had been landed.

⁹ "History of the FECZ" ADM 511, 35.

directed as a result of it, but at least the FECZ had laid out what they considered to be the hardest tasks they would face in Normandy and the tentative plan to tackle them. Lee had also shared that plan with SHAEF and the two army groups, giving them the opportunity to bring up any concerns and ensuring that they knew his intentions.

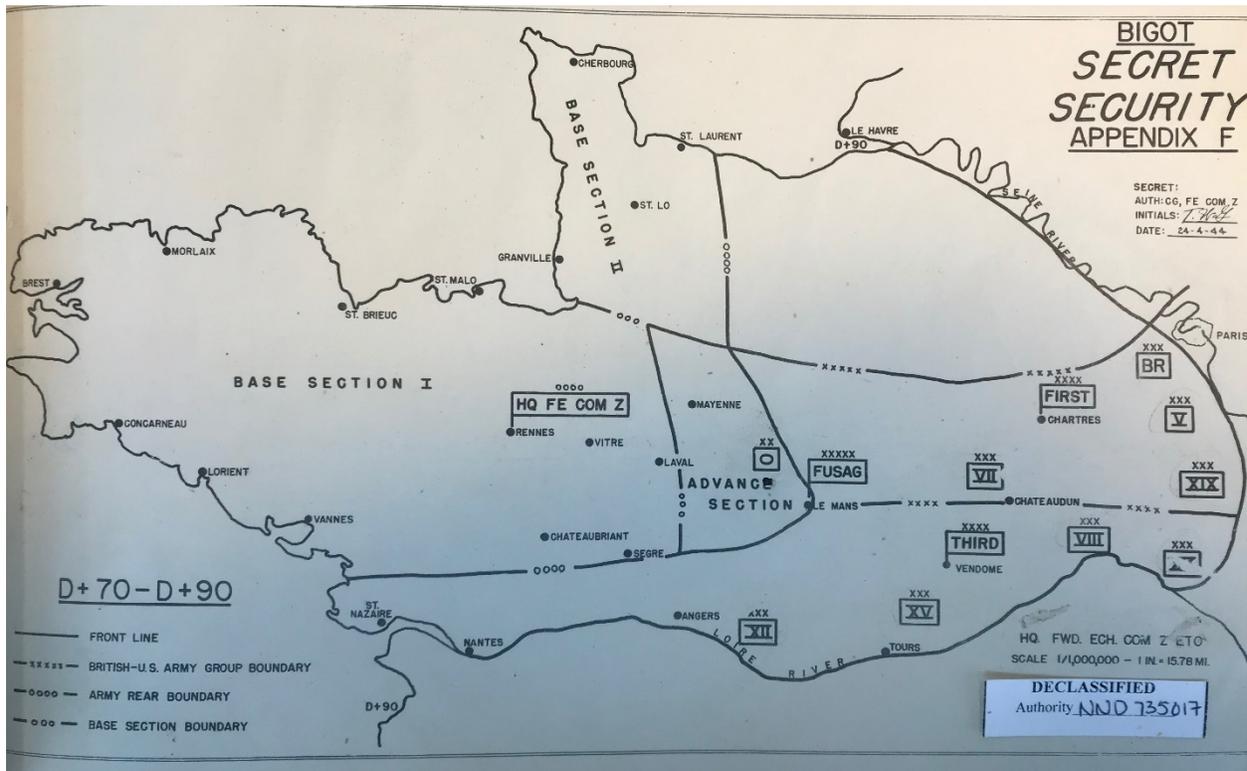


Figure 7.2: Anticipated maneuver and sustainment organization by D+90¹⁰

Anyone who reads the base plan, scans through the list of 40 attachments, and examines in detail a few of the annexes of the sustainment plan is likely to arrive at a few conclusions. The challenge facing COMZ was presented as a series of discrete, compartmentalized problem sets, each of which was supposed to be tackled by a technical service or special staff section, or perhaps by one of the base sections as they multiplied and expanded as the Allies liberated an ever-greater portion of western France. Exactly how staff elements or base sections would

¹⁰ HQ FECZ, “COMZ Plan”, Appendix F.

coordinate with one another or how COMZ was to supervise and direct this activity remained nebulous. Missing were a short list of COMZ decision points, reporting and meeting requirements, and concept of theater logistical support to outline how the various service units would interact with one another to overcome what Lee anticipated would be the sticky issues. Confronted by a lack of instructions about how the command would operate differently on the continent, it seems logical to assume, senior leaders did not envision a need to make any significant changes. The idea that the tempo of operations, less reliable communications, damaged infrastructure, and enemy activity might force COMZ to have a secondary method of coordinating its activities did not penetrate into the formal plan.

Regardless of any overarching problems with the overall theater concept of support and various methods of exercising command and control, transportation planners realized that friendly and enemy destruction of rail facilities and equipment would place a premium on motor transport early on. The earliest the Americans assumed they could count on any rail support beyond local port clearance was between D+50 and D+60; the British thought D+90 was more realistic.¹¹ This remained a hot-button topic at SHAEF and ETOUSA. Just four days prior to the publication of the COMZ plan there had been a meeting hosted by 21st Army Group at St. Paul's School on the south bank of the Thames near Hammersmith focused on finding ways to accelerate the restoration of rail service in France. The outcome of the meeting was a decision to allocate more LSTs to move engines and rolling stock to the continent once Cherbourg was open.¹² Restricting attacks by the French resistance or by Allied bombers against rail targets was not considered a realistic option among the army group staff. The prevailing thought was

¹¹ HQ, FECZ, "COMZ Plan" 14 May 44, RG 407, Entry 427, Box 215, NARA II, 34. 21st AG refused to follow SHAEF and change their rail repair timeline after truck battle between ETOUSA and the ASF. See chapter four.

¹² "History of the FECZ", RG 498, UD 578, Box 3928, ADM 549, NARA II, 28.

that the Germans would use the local French rail system until the last possible moment and then pull back while taking everything that was mobile with them, destroying the rest.¹³ There was no way around it; ETOUSA would have to resupply the forward divisions using only motorized transport for at least the first two months of the campaign, and three months was more realistic.

ADSEC and FECZ Run the Communications Zone

The ADSEC and FECZ staffs were essential to controlling logistical support on the continent for the first 90 days of Overlord; ETOUSA and SOS would be tied down in London and Cheltenham by other duties. Even if Lee and Ross had wanted to try to synchronize their organizations from the U.K., they did not have the signal equipment required to do so, or reliable means to get back and forth into Normandy for a more hands-on approach. Vaughn realized that one of the keys to success for FECZ was establishing a good working relationship with 21st Army Group and the American staff liaison element collocated with them. To this end he established an LNO group with the 21st Army Group headquarters element located at Portsmouth on 29 May, which also gave them easy access to the advanced headquarters of SHAEF which was positioned nearby. FECZ had spent the last four months cementing personal connections, seeking formal recognition of the scope of their duties, and developing planning expertise in order to be a key player in Normandy. Vaughn's authority to coordinate logistics on the continent was bolstered when Lee told him that he would have official supervisory authority over Base Section No. 1 as it was established at the beginning of May and over Base No. 2 on 1 June, at least until COMZ arrived to assume control. After D-Day, it became apparent to everyone that

¹³ The first recorded instances of appeals to stop blowing up bridges and rolling stock appears around mid-August, initiated by 12th AG. Of the many reasons offered in argument against the transportation plan, preserving the rail network for Allied use was never considered a realistic possibility.

the command would soon assume a major role in synchronizing logistical operations; the command began to maintain an updated war map at the main headquarters on 7 June.¹⁴

About a week later the lead elements of ADSEC were up and running in Normandy, collocated with the 1st Army headquarters, first at Grandcamp Les Bains, then shifting to Catz (near Carentan) on 20 June. Ross relied on Colonels Sibley and Richmond to manage the small fleet of trucks engaged in clearing out the beach landing areas and docks and supporting the field dumps. By the end of the month ETOUSA had 36 truck companies and two QM groups ashore in addition to the organic companies within the special engineer brigades. FECZ monitored ADSEC's efforts from afar, seeking to learn effective procedures as they emerged and gain an understanding of the tasks that proved to be particularly difficult. At a FECZ command and staff meeting held on 9 June, the chiefs for each special and general staff element were directed to visit the ADSEC and Base Section No. 1 in Normandy and bring back their insights to share with the group.¹⁵ Over the coming weeks the headquarters transferred a growing number of men to reinforce and work side by side with the ADSEC. The first reconnaissance party from FECZ landed at Utah on 18 June, followed by the quartering party on 9 July. Meanwhile the FECZ had been disbanded as a separate command and realigned as just a forward piece of Lee's COMZ, with BG Vaughan transferred to command what would become the U.K. Base Section.¹⁶ COL Albrecht, the FECZ chief of staff, moved over to become a deputy chief of staff at COMZ, but this had little practical impact to the deployment timeline or scope of responsibilities of the

¹⁴ "History of the FECZ", RG 498, UD 578, Box 3914, ADM 511, 39. This document was written in two installments. The first portion (549) covered from creation to 1 June, while the second portion (511) ran from early June to mid-August.

¹⁵ *Ibid.*, 43.

¹⁶ This decision was linked to a bureaucratic battle between Bradley and Lee aimed at clarifying and simplifying administrative relationships in Normandy. Bradley was not about to turn over control of a rear area to anyone with less than three stars. Lee decided to accelerate his own displacement to France to remove this obstacle to the earliest possible activation of a theater COMZ.

officers transferred to France. By 15 July Albrecht was conducting regular FECZ meetings in Normandy, but the staff struggled to identify a unique and meaningful role distinct from what the ADSEC was already accomplishing.¹⁷ Not sure exactly how his team might contribute, Albrecht instructed the section chiefs to help the ADSEC and 1st Army by any means possible and continued to prepare the facilities at Chateau Pont Rilly for the arrival of the main body of the COMZ staff.

Ross detached some of his best officers to work with FECZ. LTC Ayers, the chief of his motor transport division, arrived in France on 14 July, followed by COL Traub three days later and by COL Tripp on the 21st. Traub and Tripp bounced back and forth between London and Normandy for the next three weeks trying to keep both headquarters abreast of the situation on the continent. Traub was Ross's longest serving and most trusted deputy, a member of the first handful of transportation officers sent to help Chaney run Bolero back in May 1942, a team subsequently rolled into the core of the SOS staff that traveled with Lee from Washington. Traub had been a field artillery officer for the first twelve years of his career before transferring to quartermaster, and he served as Ross's operational planner until he was moved up to the deputy position and then transferred to act as the chief of the transportation section at FECZ.¹⁸ It was logical to assign the officer who best understood the challenges that field conditions would impose, and he was the most familiar with how Ross thought and wanted things organized.

Ross repeatedly visited the battlefield in Normandy before moving to Valognes for good on 17 August, and he found ways to contribute to the campaign's success from London. In July he convinced Sayler and Lee to release 700 2.5-ton trucks from theater stocks and to turn them

¹⁷ "History of the FECZ" ADM 511, 52.

¹⁸ "History of Transportation Service, ETOUSA, 1942-1945", RG 498, UD 578, Box 3956, NARA II, 1.

over to his port operating battalions at Cherbourg, generating the equivalent of fourteen new QM truck companies.¹⁹ Ross provided drivers to man these trucks from port units assigned to his own service, and he then ensured that they were backfilled by enemy prisoners of war and French civilian volunteers. By the end of July, the MTB was supervising about 90 truck companies and their associated battalion and group headquarters, or over 18,000 men.²⁰ Ross had done everything within his power to position the right leaders at the right locations to do their job, and he provided what resources he could to achieve success. His team, distributed in three locations, was directly involved managing operational support to the campaign from day one. At the same time, Lee had delegated all operational tasks to a subordinate organization while keeping the majority of the COMZ staff focused on work occurring in the U.K. Lee did not dispatch any of his primary staff with the authority and skill to correspond to Sibley, Traub, Tripp, and Ayers. Vaughn, Plank, and Albrecht were strong officers with years of experience at the base-section level and on the ETOUSA planning staff, but none of them were SOS insiders or particularly well known at SHAEF. Frankly, Lee had a tiny inner circle; the two officers he deeply trusted, Weaver and Lord, were kept close by. Lord spent a lot of time in London working with SHAEF and trying to supervise the technical service chiefs, but Lee considered Weaver, the most suitable choice to run the FECZ forward element, irreplaceable; thus he remained at Cheltenham until the last possible moment. The differences in how Lee and Ross approached the issue and their early results were significant, providing insight as to why OCOT seemed to have a handle on their duties from the beginning of the campaign while the staff at COMZ struggled.

¹⁹ Landon, Part III, 6.

²⁰ Landon, 2.

Synchronizing the Transportation Battle in August and September

The truth of the matter is that the logistics mission in Normandy was relatively easy until after the breakout achieved in Operation Cobra. Not only was it a simpler problem in a relatively small area, but most of the work was accomplished by Plank's ADSEC with assistance from the technical staff sections assigned to FECZ, and the organization that would soon become the Cherbourg and then Normandy Base Section. Yes, Ross assisted these efforts by putting good people into the transportation section at ADSEC and FECZ, and by convincing Lee to stand up the MTB, but the bottom line was that the distribution mission was straightforward and largely conducted by tactical service units following the original concept of sustainment. By the end of the first week of August this was no longer the case, and the scope and complexity of the transportation effort exploded at precisely the same time when there were massive changes to the Allied command structure and a corresponding rush to set up headquarters in Normandy.

One can get a sense of how drastically the mission changed at the ADSEC transportation section between the two phases by comparing the volume of convoys in the first few days immediately after Cobra and then throughout the first half of August. The official figures on tonnage carried and distance travelled that were maintained by the section are problematic and internally inconsistent, but the rate of exploding requirements and performance is illuminating. On 26 July the MTB supposedly moved 3,829 tons of cargo a distance of 366 miles, and 2,311 personnel 147 miles.²¹ During the first few days after the breakout, the priority was to move supplies up from the beaches to dumps and depots around Carentan and Saint-Lô, taking advantage of the new elbow room to clear out the areas immediately around the discharge centers and closer to what would eventually be a major rail hub. Starting on 1 August the daily

²¹ TS ADSEC Daily Activity Log, 26 Jul 44, RG 498, UD 1304, Box 6399.

tonnage and mileage figures began their steady climb; that day 13,604 tons were moved forward, including large quantities of POL pipeline construction materials. On 2 August the ADSEC transportation section logged the start of a major effort to move up fuel for 3rd Army -- 1,250,000 gallons or 5,000 tons; 80 trucks were dispatched over a six-day window to complete the task. These fuel deliveries were in addition to the convoys already moving up ammunition and class two and four supplies to the area around Saint-Lô. The lift figures for 4 August clearly signaled to anyone watching that the long-awaited strain on U.S. motor transport was finally at hand -- the MTB and motor transport section claimed to have moved 22,371 tons over 647,720 ton-miles.²² Eighty trucks were committed to moving POL that day, while 700 were shifting ammunition dumps closer to the front lines.²³ At this stage only a small percentage of the Allied army was moving more than a few miles a day while almost everyone was still engaged in heavy combat with stubborn German defenders. Furthermore, it was hard to use standard trucks to shift bulk fuel; as long as there was not overwhelming demand for gas, ADSEC was comfortable with a measured approach that matched the most logical equipment to each job.

By the end of the first week in August, deliveries continued to expand at a staggering pace, with 1.2 million gallons of MT 80 and 17,000 tons of ammunition handled on 7 August alone. On 11 August the section recorded the delivery of 53,796 tons across 1.36 million ton-

²² There was a disconnect in how the MTB and MT division of the ADSEC transportation section calculated figures in comparison to the movements division, with both organizations reporting wildly different numbers for the same day. MTB/MT numbers were consistently higher than movements estimates. It is likely that the MT division was reporting port clearance, static, and long-haul tonnage while movements only reported LoC deliveries. The disconnect was noticed on 17 August and brought into alignment two days later. The MT numbers are provided here only to gauge the relative daily effort.

²³ This was largely a function of the efficiency associated with using 2,000- or 750-gallon POL trucks, of which there were a relatively small number, to move fuel, while any cargo truck could move ammunition. An Allied corps of three divisions burned about 120,000 gallons of fuel a day, equating to 500 tons of cargo, or four light or 1.5 heavy U.S. POL companies. Fuel could be loaded in 55-gallon drums or 5-gallon jerry cans, but these were time consuming to fill and load onto trucks, and eventually were in short supply.

miles, in addition to moving 10,000 personnel up to the front.²⁴ The section diary also noted the assignment of two M-19 tank transporter companies to the fleet that day, units Ross had managed to get temporarily reassigned to the MTB the day before. The M-19 was designed to carry a 45-ton tank -- when fitted with improvised retaining walls, they could move huge amounts of heavy material, but only on good roads. One company of M-19s could carry almost 2,000 tons of ammunition, or about fifteen times the capacity of a standard 2.5-ton company. ADSEC accomplished a similar performance on 12 August, and the section diary noted the delivery of about 500 new 2.5-ton trucks and 1,400 personnel to the MTB, resources released from theater reserves as a result of Ross' engagements with Saylor and Lee.

Demands from the combat divisions had skyrocketed, but through mid-August ADSEC felt they were keeping their end of the bargain while maintaining sufficient strength in the truck companies. August 14 was a day that witnessed a peak delivery performance, with 64,392 tons moved 2.19 million ton-miles, including 2,000 tons of CLS 1, 9,000 tons of ammunition, and 4,300 tons of POL. Wheeled lift capacity was tight throughout the theater, but this did not prevent the allocation of 400 tons of lift to move chemical warfare service ammunition on 13 August.²⁵ On 18 August the MTB delivered somewhere between 20,000 and 25,000 tons to army depots before dropping off to about half that quantity the next day.²⁶ The drop in performance and irregularity with reporting was due to the fact that the MTB was focused on

²⁴ Movements division recorded the delivery of only 10, 678 tons of cargo that day. The ratio of the difference between motor transport and movement division daily claims are inconsistent – it is impossible to establish a conversation rate between the two.

²⁵ This might have been smoke rounds for the 120mm mortar platoons manned by the CWS. Regardless, it pointed to the fact that Allied supply requirements, approved by senior leaders, went beyond food, fuel, and (traditional) ammunition.

²⁶ The drop-off in tonnage delivered between 14 August and 18 August was probably not as bad as it seemed based on the reported figures. It seems that someone had taken notice of the internal reporting discrepancies and fantastic figures claimed throughout the first half of August and tightened up standards. Tonnage delivered by truck did not fall off a cliff, it was just reported more accurately. After 18 August the truck companies were repositioned in preparation for the Red Ball Express.

repositioning its assets in order to start the Red Ball Express, the ADSEC had just moved its headquarters twice in the last week, and the COMZ had taken over many of their functions in the last ten days. The last reliable report from the motor transport division was on 25 August, which logged the delivery of about 14,000 tons of cargo. The transportation section had recognized and responded to the first phase of the distribution crisis, but by late August major coordination and reporting responsibilities were shifting to the COMZ at the same time that the delivery distances were growing longer and longer.

Shifting Gears to the Red Ball Express

The primary focus of the ADSEC transportation division after the Cobra breakout was to maximize the potential of the MTB. The decision was made to divide the MTB and ADSEC motor transport service on 15 August, allowing the brigade staff to move independently and where the mission dictated. After ADSEC relocated to Le Mans on 18 August, “all sections concentrated on the development of the Red Ball Express Operation.”²⁷ By 23 August the COMZ was confident that the plan was well-understood and that all of the necessary resources were in place, and they gave the go ahead for the operation to begin the next day.²⁸ There was nothing particularly original about the idea of establishing a long-range express route, but the scale of the Red Ball was unprecedented. It combined the idea of centrally managed traffic circuits from the COMZ support plan published on 14 May with the massing of over half of the theater truck companies under MTB control. Supposedly, on 25 August 3,358 trucks from 67 companies were working the route, carrying 5,000 tons of supplies for the forward divisions and

²⁷ LTC J.C. Doyle “Comments on Motor Transport” 26 Jun 45, RG 498, UD 1304 (Historical Reports of the TS at ADSEC), Box 6399, NARA II. Doyle was the operations officer of the transportation element at ADSEC.

²⁸ History of ETOUSA G-4, 3.

air groups.²⁹ These numbers are a bit odd, with too many trucks assigned to each company and too little cargo carried by each truck, but it was early in the process and reporting accuracy and procedures were probably still being worked out.

There is something of a misconception that the MTB and ETOUSA truck fleet was dedicated exclusively on line of communication deliveries to the front, but this is incorrect. At no time did long-haul distribution consume even half of the U.S. trucks available, much less a preponderance of the companies on the continent. Between 1 September and 11 October, COMZ distributed their truck companies across three critical mission sets – 43% were assigned to port clearance, 26% to static operations, and only 31% to the line of communications.³⁰ These allocations shifted over the course of the pursuit and first attempts to break through the Westwall. The Red Ball Express received an increasing share of the resources from mid-August to mid-September, but at no point could the Allies completely ignore the requirement to clear the ports and beaches, keep depots organized, and support various service units working in each base section. How priorities shifted over time is illustrated by the unit records of the 470th QM Group (TC), which listed the primary mission for its seventeen assigned companies as port clearance at Cherbourg up until 12 August.³¹ On 13 August the group was shifted to Le Mans, reinforced to twenty U.S. and three British companies, and directed to move supplies forward from the rail terminus to army dumps as part of the Red Ball Express. The maximum focus on long-haul work within the MTB probably occurred during the last few days of August and the first week of

²⁹ Ruppenthal, Vol. I, 560.

³⁰ Landon, Part I, 6.

³¹ CPT Harrold Hemenway, Jr., “Resume of Ops of 470th QM Group (TC) from 13 Jul 44 to 7 Feb 45” RG 498, UD 1304, Box 6399, NARA II.

September. On 29 August COMZ G-4 reported that 132 companies were assigned to the MTB, with 5,958 operational trucks moving 13,542 tons of material that day.³²

The report for 5 September added a bit more detail, giving additional insight on the distribution of companies among the major mission sets. Seventy-two truck companies were assigned to the ADSEC, 41 to Normandy Base, and three in direct support of 21st AG, equating to 185 2.5-ton companies.³³ Almost all of the 41 companies in Normandy were performing port clearance and static operations, while about a quarter of the ADSEC units were probably tied down at the forward dumps. It is reasonable to assume that, in the aggregate, at the height of the pursuit somewhere between half and two-thirds of the available truck companies were assigned to long-haul missions sustaining the forward advance. More tonnage was handled by the companies keeping the docks clear, but it took the line of communications companies days to move what the port units could shift in a few hours.

| Month | Total | Port Clear | Static | LoC | # Trk Co End of Month |
|-------|-----------|------------|-----------|---------------|-----------------------|
| July | 178,207 | 178,207 | - | - | 32 |
| Aug | 1,249,809 | 705,174 | 116,238 | 428,397 (34%) | 139 |
| Sep | 1,555,614 | 698,914 | 380,579 | 476,121 (31%) | 190 |
| Oct | 2,007,469 | 625,350 | 901,193 | 480,926 (24%) | 226 |
| Nov | 1,983,930 | 630,570 | 1,124,478 | 228,882 (12%) | 218 |
| Dec | 1,831,819 | 583,822 | 1,051,822 | 196,175 (11%) | 244 |

³² History of the ETOUSA G-4, 3. The accuracy of these figures is highly suspect, and should be regarded with healthy skepticism. The quality of signal support and reporting discipline by the end of August was a mess, and not aided by the frequent relocation of the majority of the command and control nodes tracking the effort. These numbers equate to a 94% ORR in each truck company with each truck carrying 2.3 tons. By this stage in the campaign a 2.5-ton truck with trailer was authorized to carry 4.5 tons of cargo. Some companies were probably over-strength after the issue of extra 2.5-tons from theater replacement stocks, but it is reasonable to assume some portion of these 132 companies were actually assigned to port clearance and static operations. The ETOUSA records are also frustrating because they alternate between short and long tons, and gallons, sometimes without noting which unit of measure they are using.

³³ History of the ETOUSA G-4, 3.

Table 7.1: Tonnage moved by motor transport by type of mission³⁴

Once the Red Ball was up and running, the system required a three-part division of labor to function effectively. The COMZ G-4 was in charge of prioritizing what got moved, the transportation section divided the tonnage between the air, rail, and motor distribution networks, and the MTB generated and supervised all of the necessary truck convoys. The various base sections, including the ADSEC, were responsible for loading and unloading the trucks at the depots and dumps, and running support facilities and patrols along the Red Ball. The motor transport division at the ADSEC marked the route and produced strip maps for operators and headquarters. The original plan developed by ADSEC called for traffic control points manned by military police (MP) units equipped with radios, regulating control points at major holding areas and divergence points along the routes, MP and ordnance roving patrols, decentralized engineer maintenance of the road, and elaborate support centers where drivers could rest, eat, and make minor repairs to their trucks. Convoy operations and traffic control were to be conducted under the guidance contained in ETOUSA SOP 31, published in July 1944, and the various instructions flowing from the ADSEC, MTB, and COMZ.³⁵ It was a thorough plan, but it was also unrealistic and not very well understood by the services and base sections required to make it all come together.

³⁴ History of the TS, ETOUSA, RG 498, UD 578, Container 3881. It is worth noting that it took a lot more effort to move each ton along a 200-300-mile line of communications than to shift material from the docks to a depot within a 50-mile radius of the port.

³⁵ ETOUSA G-4 History, 16. RG 498, UD 578, Box 3931, ADM 553A and B.

Establishing the Necessary C2 Nodes

One of the toughest challenges in managing the Red Ball effort was centrally directing the linkage of depots, transportation, and delivery locations. COMZ and OCOT were responsible for figuring out what the armies wanted and if those items were already on, near, or heading towards the continent. If they were within easy reach, COMZ needed to determine the exact ship or depot in order to pair the load with some means of transportation. At first, the truck fleet accounted for virtually all Allied hauling capacity, and MTB was charged with managing the forward and return movement of hundreds of convoys every day. Like the British logisticians working for 21st Army Group, the Americans quickly discovered that travel distances combined with inadequate communications technology was the first critical hurdle the command had to overcome. But unlike the British, COMZ could not reposition competent command nodes quickly enough to retain control over the system. To be fair, the Americans were dealing with much greater distances, particularly along the outer arc of the advance, and with a progressively larger number of troops relative to 21st Army Group's strength.

COMZ tried to maintain control over all the elements operating west of the Seine during the early stages of the breakout by shifting headquarters to the east. Soon after the Red Ball Express started running, MTB moved its headquarters from near Cherbourg to Alençon, or about halfway to Paris. The new site was the first the command had occupied in France that was equipped with reliable electricity, permitting continuous and efficient work.³⁶ COL Richmond was replaced by COL Ross Warren, a field artillery officer, on 3 September, and the MTB headquarters moved to collocate with SHAEF and its ETOUSA liaison element at Versailles on

³⁶ Landon, 13. This is not to imply that the MTB closed up shop at night before 27 August, just that the headquarters was much more efficient with real lighting.

the 11th.³⁷ No official history mentions why this change was made, but based on the timing, Richmond was either exhausted or proving ineffective in running such a large organization. Richmond may have made mistakes, but he was not helped much by the COMZ staff, which had issued incomplete and late instructions to the base sections that were supposed to support the Red Ball Express and which had also failed to follow up on suggestions made by the brigade to better maintain the strength of the companies working the route. COMZ had moved from Valognes to Paris at about the same time the MTB shifted to Alençon, slowly transferring personnel over a three-week window between 29 August and 10 September. The transportation section assigned to ADSEC moved repeatedly throughout August, finally ending up at Reims by 9 September.

It seems as if COMZ generally had the right nodes at the right locations in order to coordinate with supported units and stitch together radio and telephone networks, but they had not mastered the techniques that would allow the system to function under the conditions of a mobile campaign. The similarity between how the British and Americans arrayed command nodes and when they displaced them forward is striking; the major difference was that the system seemed to work at 21st AG while it broke down between 12th AG and COMZ. In the end, senior leaders within 21st AG's logistics staff and L of C command had practical combat experience and well-developed procedures for both static and mobile operations, while COMZ and its follow-on base section commands did not. The British had their share of inexperienced units and officers, as we will see below, but they also had a sufficient safety net to overcome these deficiencies. This was not the case with their American counterparts. In the early days of the pursuit, COMZ seemed to be unable to think and communicate with its subordinates faster

³⁷ Landon, Part III, 17.

than the MTB and OCOT decided to make changes to the roads the Red Ball was using. On 10 September portions of the express route were shifted over to new roads, but COMZ did not get out notification of the changes until that same day.³⁸ Obviously it would take a few days for the base sections to move their stationary and mobile support posted along the route to the new locations. Determining if this late notification was the result of COMZ functioning too slowly or OCOT and MTB demonstrating too much independence by changing the route without informing their controlling headquarters until the last minute is hard to discern. Other evidence suggests that the friction was the result of internal procedural problems at COMZ. On 5 September when the command first published a comprehensive collection of instructions associated with Red Ball operations, it only distributed the document to the Normandy Base Section and ADSEC.³⁹ When COMZ realized that they had left out a number of key subordinates, they sent a supplemental telex to the Loire, Seine, and Oise base sections over the next few days. Under these conditions it is easy to see why various service units were not in position when directed.

³⁸ Ibid, 18-22.

³⁹ Ibid, 23. Even if all of these sections were not actively managing sections by 5 September, they soon would be, and any advanced notice that allowed them to plan accordingly would have been useful. Seine was activated on 24 August, Loire on 5 September. Oise began operations on 3 September, but changed roles with the Channel Section twelve days later. See Ruppenthal, Vol. II, 35-36.

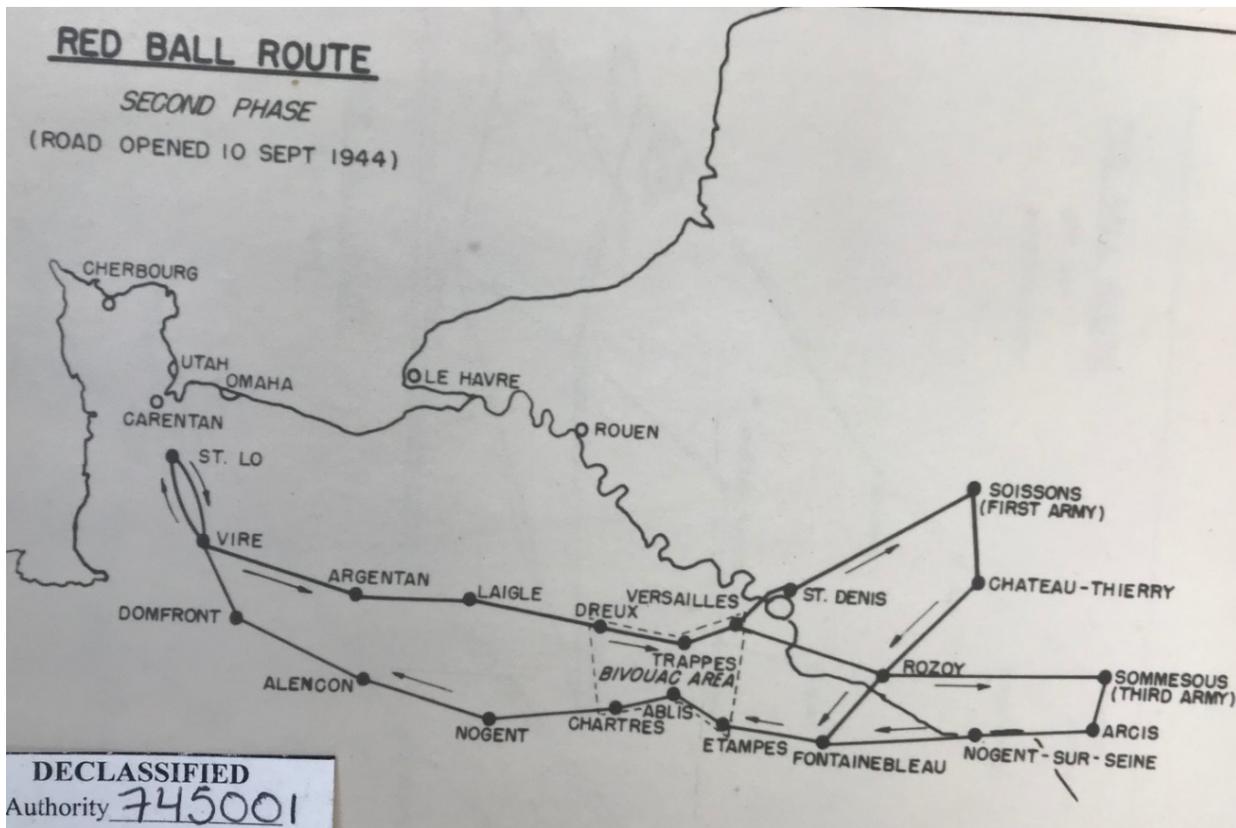


Figure 7.3: The Red Ball Express as of 10 Sep 44⁴⁰

An area of particular concern to the motor transport community was the failure by COMZ and its base sections to integrate ordnance repair and recover teams into the Red Ball system. After about ten days of executing the mission, the MTB suggested to the ordnance special staff at COMZ that they should establish central service stations at a few key points along the route.⁴¹ The idea was to create fully-resourced inspection and repair centers in good facilities at logical locations in France, such as the massive motor pool and cantonment centers around Cherbourg, Paris, and the army delivery locations in what would become the Oise Base Section and in the combat zone dumps administered by ADSEC. It took five days for the recommendation to reach the COMZ G-4 and for Stratton to approve the idea, but the bureaucratic follow up was

⁴⁰ History of the TS, ETOUSA, RG 498, UD 1210, Box 5981.

⁴¹ History of ETOUSA G-4, 41.

lackluster and the plan was never properly implemented. The end result was a lot of broken trucks. There were reported instances of truck companies returning to their parent organizations after service with the MTB with only 25% of their vehicles still in working order.⁴² Many of the mechanical problems were easy to fix, given the right repair parts, time, and mechanics needed to make repairs, but this tended to get the unit back up to only a 60% readiness rate. Reaching an acceptable level of 80% or better was most efficiently accomplished by drawing replacement trucks rather than trying to fix the most seriously damaged ones.⁴³

Stationary maintenance support was only half of the problem. COMZ had directed the base sections and the chief of ordnance to assign mobile patrols along the route, to repair vehicles that were broken down at the side of the road if possible, or to tow them to the closest collection point otherwise. With the expansion of the Red Ball Express up to and across the Seine, which went into effect on 10 September, mobile support broke down along the gap between the old dumps at Mortagne-au-Perche and Chartres and the terminus at the river.⁴⁴ The same letter sent by the MTB to report the problems along the newly extended route also noted that the 27th QM Group had raised similar complaints while using the route between Chartres and the Saint-Lô – Alençon area between 10 and 12 September. A control point manned by MTB personnel at the St. Cyr diversion area reported seeing no stationary or mobile ordnance teams during a 36-hour period from 10 to 11 September. The OIC had taken note because he had received fifteen requests for maintenance assistance since occupying the position. The last bit of evidence that there were major problems with support on the Red Ball came in on 14 September,

⁴² “History of TS, ETOUSA”, 30.

⁴³ Ibid, 41. The document is specifically referring to provisional companies formed by stripping divisions of trucks and drivers, and their condition upon return to the parent unit. Unlike the COMZ and OCOT, these organizations had an incentive to report (or slightly exaggerate) bad news about the truck fleet.

⁴⁴ COL R.B. Warren “Lack of Ordnance Service” 15 Sep 44. This was a letter for BG Plank, prepared by the MTB. RG 498, UD 1210, Box 5981.

when LTC W.H. Taylor reported seeing 81 broken-down trucks on the 200 kilometers of road between Vire and Dreux awaiting recovery or repair. This was the same portion of the Red Ball that was supposedly left uncovered between 10 and 12 September as noted by the 27th QM Group. Warren ended his letter to Plank by pointing out that an informal poll conducted by his maintenance officer led him to conclude that trucks that broke down on the Red Ball Express were waiting on average between three to five days for recovery or repair.

To its credit, COMZ collected all of this input and on 18 September published a set of supplemental instructions designed to improve support along the Red Ball Express. The directed changes would take effect on 24 September (subsequently postponed to 27 September), a delay designed to allow units time to distribute these new instructions and prepare appropriately.⁴⁵ Throughout COMZ leaders were slowly learning how long it took to disseminate orders, align forces to requirements, and then check that everything was in position before switching to new procedures. The base sections were discovering how hard it was to collect one comprehensive list of everything they had been instructed to do by COMZ and the special staff at ETOUSA, determine if troops were available to accomplish those tasks, and centrally validate the priorities if excess capacity was not available. In some cases, the base section had to refer the problem to COMZ, to get their input on which absolutely critical tasks to accomplish and which less essential ones to let slide. Unfortunately for COMZ, this learning was happening precisely when a supply crisis emerged that brought the pursuit to a halt and slowed the preparation for new offensives designed to break the short-term stalemate.

⁴⁵ History of ETOUSA G-4, 24.

The Performance of the Red Ball Express in Phase One

It is difficult to nail down exactly what resources the MTB had under its control and what the hard data were on their performance during the first phase of the Red Ball effort. The brigade had control over a constantly changing number of companies; the average during the 81 days of the operation, from mid-August to early November, was 83, but the number hit a one-time peak of 133.⁴⁶ At the critical phase of the pursuit at the end of August, the MTB controlled about 5,700 trucks in those 133 companies, which equates to a 90% readiness rate if each company had its authorized 48 vehicles.⁴⁷ The average daily tonnage delivered was 5,088 tons and the average round trip from Normandy to army depots was 606 miles; a round trip in support of 3rd Army in early September could cover over 700 miles.⁴⁸ From 25 August to 5 September, or the most critical period of the pursuit, ETOUSA thought motorized transport had delivered the following quantities of supplies to the forward combat formations:

| CL I | CLS II | CLS III | CLS IV | CLS V | Total | Daily Avg |
|--------|--------|---------|--------|--------|--------|-----------|
| 15,000 | 27,232 | 19,047 | 2,559 | 25,061 | 88,900 | 7,408 |

Table 7.2: Tonnage delivered to the ADSEC by motor transpo between 25 Aug and 5 Sep⁴⁹

⁴⁶ “History of TS, ETOUSA 1942-1945”, RG 498, UD 1210, Box 5981, 12.

⁴⁷ DeArman, 6-8. DeArman states the MTB controlled 5,700 trucks. My research has demonstrated that truck strength was based upon assumptions rather than detailed reporting from the MTB and its associated QM Groups. All figures provided by ETOUSA sources for August to October should be considered the highest possible strength, and in reality, probably only 50 to 75% of the claimed number of trucks were operational, manned, and on the road performing missions.

⁴⁸ “History of TS, ETOUSA 1942-1945”, 12. This number seems low until one realizes that the average number of trucks assigned to the MTB throughout the duration of the operation was 3,300, not all of which were committed to long-haul LoC work. In some cases, it took well over 24 hours for a truck to make the run from Cherbourg to 3rd Army and back.

⁴⁹ History of ETOUSA G-4, 3. It is interesting to note that if they received fuel from no other source, this was enough fuel to steadily supply three U.S. corps between 25 August and 5 September. 12th Army Group had four corps in its vanguard during these two weeks, with other corps on reduced levels of supply protecting its flanks and fighting in Brittany.

In addition to the 89,000 tons delivered to the armies, an additional 47,912 tons were shifted from Normandy to intermediate depots around Le Mans, Chartres, and Dreux.⁵⁰

Raw delivery figures are meaningless taken out of their operational context. Were 20,000 tons of POL and 25,000 tons of ammunition sufficient to sustain the pursuit between 25 August and 5 September? Even if these delivery figures were generally accurate, we know that 3rd Army ran out of fuel repeatedly between 28 August and 4 September, despite aerial resupply, the use of captured enemy stocks, and the voluntary decision to halt one corps and then elements of XX and XII Corps.⁵¹ The U.S. 1st Army had the same problems on 2 and 3 September and 6 to 9 September, stopping XIX Corps on 3 September to allow the continued advance of V and VII Corps.⁵² This action was still insufficient, since fuel shortages stopped the 5th, 7th, and 3rd Armored Divisions at critical points during the drive on Tournai and during the effort to cross the Meuse around Dinant. Every day spent waiting for the delivery of fuel meant the loss of 70 miles of unopposed advance, or 50 miles against light enemy resistance.⁵³

Obviously, in theory, the Allies could have delivered more fuel to the front line; POL deliveries accounted for about 21% of the tonnage that reached the armies between 25 August and 5 September. This assumes COMZ could have found containers to put the gas in, and it discounts any new problems that might have emerged as a result of the leading four corps getting hundreds of tons less food, ammunition, repair parts, or replacement equipment in order to

⁵⁰ Ibid, 3.

⁵¹ See Blumenson *Breakout and Pursuit*, 666-669 and Hugh M. Cole *The Lorraine Campaign*, 21-23, 24-25.

⁵² Blumenson, 681, 692, 694-695.

⁵³ XX Corps of the 3rd Army moved 70 miles from Reims to Verdun on 30/31 Aug. VII Corps of 1st Army moved 100 miles from the Somme to Tournai 1 - 2 September. Attacking with three full-strength divisions allowed any significant resistance to be encircled and bypassed. It took VII Corps so long to get across the Meuse at Dinant because it hit a major German strongpoint manned by splinters of the I SS Panzer Corps, and because the flanking maneuver initiated by 3rd Armored Division had to stop from 3 to 6 September until more fuel could be delivered. It took Collins three days to eliminate the enemy in Dinant as a result.

ensure a more regular delivery of fuel. But one reaches the conclusion that OCOT and COMZ did not even try to increase the regularity or quantity of fuel reaching 12th AG; it seems as if the command assumed that the bulk POL companies were sufficient or that augmenting them with 2.5-ton trucks carrying barrels or jerry cans was not worth the hassle and resulting inefficiency.

But in the end, Patton and Hodges failed to reach their operational objectives because divisions sat motionless for days at a time during the critical phase of the pursuit, but not because their soldiers were starving, missing construction material, or replacement equipment. Finally, during these frantic two weeks at the end of August and into September, OCOT and COMZ probably had almost no idea how much fuel was actually leaving Cherbourg, how much was reaching army and corps dumps, how long the round trip took, or what the actual daily requirements of the divisions were. In order to slap together an emergency surge of fuel, COMZ would have needed to realize that they were in the midst of a crisis before the first time a division had to sit idle for a day, which was a capability beyond the reach of Lee's organization at the end of August.

The operational impact of what was admittedly a small oversight was profound. If Patton could have relied on a steady arrival of essential supplies for his six lead divisions between 3 and 5 September, it is realistic to believe he would have reached the Westwall and Saar at Trier and Saarbrücken and perhaps established bridgeheads on the far side. Fifty additional miles of progress by 1st Army before 11 September would have placed VII Corps across the Roer east of Aachen and perhaps seen V Corps reach Bitburg, well to the east of the Westwall. Seventy-five miles of additional progress would have seen VII Corps' arrival just west of Köln. Any Allied attempt to maintain a bridgehead on the east side of the Rhine was probably an invitation to disaster, but by penetrating the Westwall and disrupting heavy industry in the Ruhr or Saar

regions in September and October, 12th AG would have significantly impaired the recovery of the German Army on both the Eastern and Western Fronts that fall.

We know that, other than in the case of fuel, 1st and 3rd Army were in generally good logistical shape at the beginning of September. The army group's monthly after-action report submitted by the G-4 for August sounded no alarm bells. The document mentioned a shortage among a few specific service units; of particular concern were tank maintenance units, ordnance depot companies, engineer dump truck and maintenance companies, and QM truck companies.⁵⁴ Moses was well aware of the transportation crisis facing SHAEF and COMZ, but hoped they would be solved by increasing the performance of air transports, borrowing truck companies from 21st AG, drafting German POWs and French civilians to work on rail repair, and having the U.S. share ports and roads in the British communications zone to support 1st Army where logical. The only supply shortage mentioned in the report was a lack of spare parts for both the Sherman tank and the M12 self-propelled 155mm artillery piece.⁵⁵ In stark contrast to the report that would follow in early October, Moses indicated that at the beginning of September the supply situation was adequate and that the steps being taken at SHAEF and COMZ to relieve some of the pressure from the current distribution system might keep the advance rolling. Similar conclusions were reached after a high-level theater logistics meeting hosted by Bradley on 12 September. BG Stratton, the ETOUSA and COMZ G-4, recorded in his diary after the meeting: "Each Army Commander reported himself in sufficiently good shape with respect to supplies to launch forthcoming attacks with would take them to the Rhine."⁵⁶

⁵⁴ 12 AG G-4 After Action Report, 6 Sep 44, 1. RG 407, Entry 427, Box 1346.

⁵⁵ Ibid, 4.

⁵⁶ History of the ETOUSA G-4, RG 498, UD 578, Box 3931, ADM 553A and B, 27. Stratton might have been guilty of a bit of selective hearing, but it is reasonable to believe that any concerns about supplies had not yet reached the army level with enough force to cause any serious concerns. Everything depended upon how much fight the Germans still had in them, and this was unclear in mid-September.

We know now that a lack of fuel was the most significant factor that limited the gains achieved in the last two weeks of the pursuit. Could SHAEF and ETOUSA done more to provide fuel to the two U.S. armies during the last week of August and first week of September? The MTB had nine 2,000-gallon heavy POL truck companies and five 750-gallon light companies on the continent at the end of July. A U.S. three-division corps needed 140,000 gallons, or 560 tons, of fuel every twenty-four hours under normal combat conditions. A heavy POL company at 83% strength could move 80,000 gallons of fuel over 200 miles of good roads in eight hours driving at 25 MPH. All five light companies could move 150,000 gallons under the same conditions, but they also had the ability to operate on secondary roads if called upon to do so. About 200 C47 cargo aircraft could move 560 tons of fuel in barrels, jerry cans, or hardened fuel blivits. By committing all fourteen specialized truck companies and 200 aircraft, the U.S. Army could have sustained six corps out to a range of about 250 miles, with some fuel left over for fighter groups, C2 elements, and essential service units assigned to the army and army group headquarters.⁵⁷

Additional capacity could be squeezed out of the system by using other truck companies to move fuel in barrels or cans, driving faster or longer hours during the long days of August and September, or employing more C47s to carry gas. But these expedients could not be maintained for very long. A 200-mile range equated to the distance from Cherbourg to Paris, or from the end of the POL pipeline at Alençon to Laon and Châlons, but it was still another 100 miles to Nancy and 200 to Liège. It might just be possible to move 300 miles in daylight during the summer, but that did not account for the hours lost to loading, unloading, rest and maintenance

⁵⁷ USSTAF and 9th AF had organic bulk POL and C47 aircraft not included in the ETOUSA capacity outlined above. To some extent 9th AF was self-sustaining and could move material to repair and operate tactical airfields on their own.

breaks, and the return journey. Even if a convoy could pull off a 600-mile round-trip in under 24 hours, the drivers and trucks would be worn out in the process and would not be available for the next mission until after a lengthy recovery period. Under near-optimal conditions, the U.S. Army might have fueled three or four corps as far as Trier-Saarbrücken and Aachen-Bitburg during the first week of September, with half the bulk POL companies headed east fully loaded and the other half returning to Normandy every twenty-four hours.⁵⁸ But only a few days of such intense operations would have begun to wear out drivers, tires, and trucks. Transport aircraft had much longer legs, but they were also at the mercy of weather at both the pick-up and drop-off airfields. At the very time the COMZ most needed C47s to augment their lift capacity, the planes were withdrawn to prepare for an airborne drop at Tournai slated to occur on 2 or 3 September. The only reason Patton and Hodges managed to make their final lunges towards the German border on 5 and 6 September was that the Tournai drop was cancelled on 2 September, leading to the return of large numbers of C47s for COMZ use starting on the 3rd.

This detailed examination of fuel requirements and lift capacity illustrates that 12th AG and COMZ actually did a remarkable job of sustaining the pursuit from 27 August to 6 September. Through the evening of 2 September COMZ managed to keep elements of five U.S. corps moving in fits and starts while delivering enough fuel to fully meet the requirements of three corps. On 3 September the Americans dropped down to four corps and kept them mobile and attacking until around 11 September. In the south Patton ran into German units that had just been reinforced and were defending on good ground, and Collins and Gerow hit the Westwall at exactly the time that the U.S. fuel delivery system could stretch no farther. The challenge had

⁵⁸ This assumes that significant numbers of C47s were dedicated to aerial resupply and that the divisions grounded everything but the most essential combat vehicles.

been exacerbated by the withdrawal of all air support between 29 August and 3 September, which corresponded to the most important and difficult phase of the pursuit based on enemy recovery and Allied logistical problems.

Sustaining the pursuit an additional 50 to 75 miles would have required one or two maneuver decisions that SHAEF seemed very reluctant to make, and it would also have needed a level of efficiency and drive at COMZ that was probably too much to ask of such an inexperienced organization. One must remember that COMZ had just moved to the continent on 7 August, was trying to manage the critical phase of the pursuit while displacing Normandy to Paris, and was confronted by massive limitations in its ability to communicate with all the required agencies. To reach the Ruhr in the fall, SHAEF would have needed to call off preparations for any future airborne operations and put the full weight of air transport behind fueling the three advancing armies, prioritizing the movement of between two to four U.S. corps and one to two British corps at the expense of every other priority. With 600 to 800 C47s carrying fuel and fourteen mixed POL companies running a four-day round-trip shuttle from Cherbourg/Alençon to Liège and the Meuse near Verdun, SHAEF could have comfortably reached one operational objective beyond the Westwall -- perhaps two. But this would have required not only disciplined prioritization and massing of transportation resources but also very precise orchestration of support by COMZ. Fuel drawn at Cherbourg and at the end of the pipeline at Alençon would have had to be ferried across the Seine and transferred to carriers on the east bank. Trains would have had to pick up the slack where motor or air transport could not meet a critical requirement. Ordnance units would have needed to find the spares and position themselves accordingly to keep C47 and 2,000-gallon tankers running full out for about three weeks. Tactical airfields reserved for administrative (logistical) work would have had to

leapfrog behind the armies, and service manpower would have had to be allocated at every transfer point along the chain. Finally, COMZ would have needed to get their hands on enough barrels and jerry cans to account for the massive increase in demand and wastage associated with combat operations. The Allied advance in April 1945 demonstrated that all of these conditions could be met, but this level of performance was asking too much of COM in August 1944. SHAEF was not prepared to make the tough maneuver decisions required, and COMZ and OCOT were not capable of driving such a complex operation.

Pressed in an interview in 1947 by the historian writing the official volume covering SHAEF and the overall campaign against Germany, Lee admitted: “Of course we should have foreseen the need for twice as many trucks.” He went on to suggest that had the resources diverted to support Market Garden been allocated to Patton instead he might have reached the Rhine before the end of September.⁵⁹ This was a rare public admission by Lee that the command had failed to get enough or the right type of trucks and that different decisions at SHAEF might have produced more fruitful results in the fall of 1944. Lee refused to go into any details about how these two decisions were made and his role in them, but it was obvious that Lee either did not understand the importance of these two issues at the time or did not have the influence to drive a different outcome. It also avoided another conclusion, specifically, that COMZ had sufficient trucks to do more in September and just failed to properly prioritize and control them in line with a better sense of what the Allied spearhead needed and where those supplies were located on the continent.

⁵⁹ Lee, interview by Forrest Pogue, 21 Mar 47, author’s notes while preparing *The Supreme Command*, AHEC, Carlisle, PN.

Transportation After the End of the Pursuit Across France

While the American advance was grinding to a halt between 5 and 11 September, SHAEF decided to shift their priority for logistical support to 21st Army Group, betting on operation Market Garden as the best hope for getting the Germans on the run again. But Bradley trusted that given the chance for a short refit, 3rd and 1st Army might return to the attack and punch through the German line around Aachen and along the Moselle. This goal drove ETOUSA to seek ways to extend the Red Ball Express well beyond its original end date and maximum range. This second phase of the Red Ball Express lasted from 6 September to 16 November, but it used a different mix of transportation assets to try to tackle the theater distribution mission in a different way. The distance from continental ports under Allied control to the front line had generally stabilized between 5 and 12 September on both the 1st and 3rd Army fronts at a road and rail distance of between 300 and 400 miles. New transportation assets became available to conquer some of this distance because of the rapid repair of rail lines and the extension of the POL pipeline eastward (and to the north from Marseilles). With the opening of Le Havre, a moderate quantity of supplies could be landed closer to the front lines and avoid the complications associated with trans-loading cargo over the Seine. Le Havre was cleared for U.S. traffic on 25 September and was assigned six truck companies for port clearance duties.⁶⁰ By 4 October this number had been raised to ten, then twenty, truck companies tasked with ferrying supplies from the port to 12th AG depots around Reims. This was a one-way trip of 220 miles, about the same distance as the trip from Dieppe to Brussels faced by the British.

By mid-September ETOUSA had already done just about everything possible to try to generate and feed more truck companies into the fight. Upon their arrival on the continent, the

⁶⁰ Landon, Part I, 6.

26th, 94th, and 104th infantry divisions were held up in Normandy and surrendered 1,200 men each in order to create twenty-five new provisional truck companies.⁶¹ Largely composed of artillerymen, they turned in their organic 1.5-ton trucks, drew new 2.5-ton trucks from the theater reserve stocks, and then were temporarily assigned to the MTB. Ten additional companies were created around the same period using personnel from anti-aircraft artillery units considered unnecessary based on the poor condition of the Luftwaffe. But regardless how many companies were added to the pool, COMZ could not seem to keep up with the increasing demands from the front. The need for more supplies at the front was fueled by the natural desire at 12th and 21st Army Groups to bring up forces that had been left behind during the pursuit, the arrival of new divisions on the continent, and soaring ammunition requirements linked to a more spirited German defense.

But as demands coming from the front continued to increase, the level of performance achieved by the Red Ball Express dropped off precipitously. The nine-week daily delivery average during phase two was 4,552 tons, with the peak day occurring on 18 September when 8,882 tons were delivered to the front.⁶² In the aggregate, the Red Ball Express was only half as effective during phase two as it had been during phase one. The drop-off was hard to explain. On 22-23 September COMZ believed that 5,178 trucks in 112 companies were assigned to the Red Ball mission, but they admitted that only 1,449 trucks were loaded and moving forward on any given day. The balance were either empty on their way back to the closest port, being loaded for the next mission, or broken. Ross summed up the ETOUSA strength in types of truck companies at the end of September as follows:

| | | |
|------------------|-----|------------------------------------|
| Standard 2.5-ton | 158 | w/37 more due to arrive in October |
|------------------|-----|------------------------------------|

⁶¹ History of ETOUSA G-4, 25.

⁶² History of ETOUSA G-4, 13.

| | |
|--|-------------------|
| Cab Over Engine 2.5-ton | 22 |
| 3 to 6-ton tractor and trailer varieties | 7 |
| 10-ton | 13 |
| 12.5-ton | 8 |
| 45-ton (M19 tank transport) | 2 |
| 750-gallon POL | 5 |
| 2,000-gallon POL | 9 |
| 5-ton refrigerated | 2 |
| Total | 226 ⁶³ |

Official readiness rates for this period are highly suspect, with OCOT assuming that units in the field were maintaining an 83% ORR or better. Information bubbling up from the field painted a different picture, illuminating a growing maintenance crisis based on the reports coming from within the MTB and its major subordinates.⁶⁴ The truth of the matter is that the OCOT and COMZ had only the most general outline of how many trucks were still with the companies, were capable of performing their mission, and were under load on any particular day. The risk inherent in this system was the overly-optimistic picture it painted for senior leaders trying to track distribution capacity on the continent. The charts then circulating around ETOUSA that are reproduced below give the impression that every truck company had its full complement of 48 trucks, that there was a theater reserve of another thousand trucks, and that each company was maintaining an 83.4% ORR.

⁶³ RG 407 Box 216, Monthly Reports from the TS to COMZ/ETOUSA, September. Note the explosion in the number of assigned truck companies by the end of September, when the number on hand were rapidly approaching the 240 companies Ross had estimated would be sufficient to reach the Rhine when he submitted his first troop basis in July 1943.

⁶⁴ The MTB and TS meticulously tracked the number of trucks on the continent, the number available for duty, and the number under load on a daily basis in September and October. This seems to be an impressive accomplishment until one begins to dig into the numbers and consider the operating conditions prevalent at the time. The aggregate daily ORR never changed from 83.4% from 1 September to 31 October. It is obvious that the TS based their data on the number of cargo trucks landed in France and authorized by T&O multiplied by .834 to determine the number available. There was no effort to validate the 83% ORR assumption with the field units. RG 407, Box 216, Monthly Reports, TS, ETOUSA.

Table 21

MOTOR TRANSPORT SERVICE VEHICLES

MONTH OF OCTOBER 1944

| DATE | NO. | | NO.* | | DATE | NO. | | NO. | HO. COS. |
|------|--------|--------|--------|-------|------|--------|--------|-------|----------|
| | ASSGD. | AVAIL. | IN USE | ASSGD | | ASSGD | AVAIL. | | |
| 1 | 13,240 | 11,042 | 10,379 | 255 | 17 | 11,992 | 10,001 | 8,301 | 229 |
| 2 | 13,240 | 11,042 | 10,489 | 255 | 18 | 11,944 | 9,961 | 8,367 | 228 |
| 3 | 13,240 | 11,042 | 10,269 | 255 | 19 | 11,944 | 9,961 | 8,566 | 228 |
| 4 | 13,240 | 11,042 | 10,269 | 255 | 20 | 12,040 | 10,041 | 9,137 | 230 |
| 5 | 13,240 | 11,042 | 10,489 | 255 | 21 | 12,040 | 10,041 | 8,434 | 230 |
| 6 | 13,240 | 11,042 | 9,827 | 255 | 22 | 12,040 | 10,041 | 8,234 | 230 |
| 7 | 13,240 | 11,042 | 10,489 | 255 | 23 | 11,416 | 9,521 | 7,998 | 217 |
| 8 | 13,096 | 10,922 | 9,939 | 252 | 24 | 10,984 | 9,161 | 7,878 | 208 |
| 9 | 13,096 | 10,922 | 10,048 | 252 | 25 | 10,736 | 8,654 | 7,702 | 208 |
| 10 | 13,096 | 10,922 | 9,611 | 252 | 26 | 10,736 | 8,654 | 7,356 | 208 |
| 11 | 13,096 | 10,922 | 9,939 | 252 | 27 | 11,072 | 9,234 | 8,218 | 215 |
| 12 | 13,092 | 10,922 | 10,048 | 252 | 28 | 10,880 | 9,074 | 7,531 | 211 |
| 13 | 13,092 | 10,922 | 10,266 | 252 | 29 | 10,880 | 9,074 | 7,440 | 211 |
| 14 | 11,848 | 9,881 | 8,794 | 226 | 30 | 10,628 | 8,864 | 7,268 | 211 |
| 15 | 11,848 | 9,881 | 8,399 | 226 | 31 | 10,704 | 8,927 | 6,517 | 223 |
| 16 | 11,992 | 10,001 | 8,401 | 229 | | | | | |

* NO. IN USE: 1 TRUCK IN USE FOR ONE DAY ON BASIS OF 20 HOURS OPERATION PER 24 HOURS.

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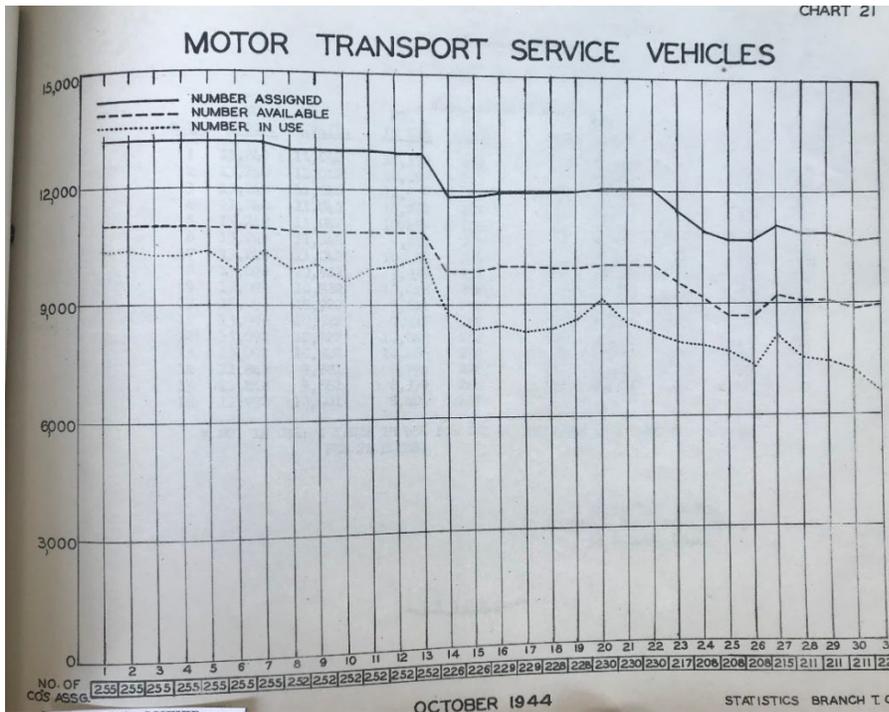


Table 7.3: OCOT, ETOUSA, MT availability for Oct 44⁶⁵

⁶⁵ RG 407, Box 216. Monthly reports from the TS, ETOUSA.

If the COMZ used these figures as ball-park estimates to guide broad operational planning then their level of accuracy was adequate. But if anyone really believed that these numbers represented the accurate capabilities of the MTB and ETOUSA truck force, they were fooling themselves. Based on data compiled on 28 September from a wide variety of sources, including roving inspection teams, ETOUSA G-4 estimated that there were 200 motor vehicle accidents a day among the COMZ truck companies, resulting in 70 total write-offs every twenty-four hours, or 2,100 a month.⁶⁶ Another 1,500 a day were undergoing repairs, with 40% of these vehicles in such bad shape that it was easier to replace them than try to fix them. Another 700-800 were awaiting inspection by higher-level mechanics. The ordnance service reported a spike in major repairs from 2,500 on 16 September to 5,750 on 30 September. Many of these major issues emerged from small problems that had been ignored for too long by company-level operators. Mud, untrained drivers, an ad hoc chain of command, and the absence of tools, technical manuals, and basic replacement items contributed to the collapse of preventive maintenance. The theater knew that it was chewing up over 10,000 trucks during the pursuit by running them ragged, a calculated risk accepted in order to try to end the war before winter conditions set in. COMZ missed its delivery objectives in October by a wide margin, not because of any drastic increase in distance that had to be overcome, but because the truck fleet wore out and could not be immediately replaced; nor could the slack be picked up by rail.

By mid-September OCOT and COMZ knew they were losing trucks at an unsustainable rate, but they also understood that it was probably going to get worse before it got better. The chief of the maintenance section on the MTB staff submitted a report on 19 September that

⁶⁶ History of ETOUSA G-4, 40.

warned of a coming tire crisis.⁶⁷ Over the first two weeks of September, inspection teams had randomly checked the wear on tires across the brigade's fleet, which led to the conclusion that the theater would have to replace 18% (18,000) of the total number of tires in use on 9,000 trucks and 6,000 trailers by 1 October. Furthermore, trucks were logging so many miles on a weekly basis that the maintenance section anticipated the need to replace the entire theater inventory of tires every six to eight weeks unless some fundamental variable changed. This estimate was based on the optimistic assumption that the weather would remain about the same, roads could be kept in working order, and the average weight per lift did not increase. By early October the theater long-distance hauling burden had primarily shifted to rail assets, but trucks were spending more time on minor roads and trails up at the front line, and the weather steadily deteriorated. ETOUSA was severely limited by the state of the truck fleet by early October, but unless extraordinary measures were taken, the spare part and mechanic problem was likely to be followed by a tire crisis in November and December. In the end, the truck fleet that had landed in Normandy between June and August was largely written off, replaced by new 2.5-tons and heavy trucks landed at Antwerp and Marseilles in November and December. This solved ETOUSA's long-term problem, but it could not help with the transportation deficit gripping the Allies in October and November.

Inefficiencies

Doubtlessly more trucks would have helped the Allies keep the front-line units better supplied, but limited resources were only one portion of the equation. ETOUSA was initially incapable of overcoming the friction produced by immature procedures and techniques

⁶⁷ CPT L.E. Copple "Tire Report" 19 Sep 44. RG 498, UD 1210, Box 5982.

regulating coordination among the various commands and services that formed the theater distribution system. Traffic congestion at the forward bulk fuel points was so bad that trucks might waste half a day sitting on the side of the road awaiting their turn to load or unload cargo, a problem compounded by poor selection of depot sites in Normandy that saw low-lying fields turned into seas of mud by increased rainfall.⁶⁸ Some depots chose not to receive or discharge supplies once it was dark; others either refused to load the cargo with assigned service units, or did not have enough manpower to do so as quickly as they would have liked. Both problem sets might be repeated at the destination end of the journey as well.⁶⁹ Large convoys might have to repeat this cumbersome loading process at a number of different depots scattered around Normandy before finding everything they had been ordered to deliver to the armies. The ETOUSA G-4 estimated that the average convoy loading time for 20 to 40 trucks working in Normandy Base Section in late September was eleven and a half hours, with outliers of more than 30 hours. The unloading time at ADSEC depots was worse; the average was seventeen hours and isolated examples reached 36 hours.⁷⁰ Every hour lost to inefficient loading or unloading procedures added up, and, beyond the hour or two required to service the vehicles and switch out drivers, it produced the same result as not having that truck platoon at all.

Other Transportation Options

ETOUSA knew that motor transport alone was insufficient to supply the U.S. Army in France beyond the Seine. It was imperative to restore some rail service as quickly as possible

⁶⁸ DeArman, 71. "History of TS, ETOUSA", 13. In fairness to the ADSEC, they did the best they could based on the shallow depth and slow expansion of the lodgment up to 25 July.

⁶⁹ "History of TS, ETOUSA", 16.

⁷⁰ History of ETOUSA G-4, 6.

between D+60 and D+90, to construct a POL pipeline from Cherbourg to the projected depot complex around Rennes, to use aerial resupply for small-scale emergencies, and eventually to open alternative ports in the south of France and along the channel. It was extremely frustrating for the officers at OCOT and COMZ that they relied so much on the restoration and exploitation of these alternative distribution networks, but they had little say making it a top priority to use resources for this purpose.

In the frenzy to sustain the pursuit from mid-August to mid-September, all the truck and rail capacity committed to moving construction material for the POL pipeline was redirected to supplying the armies. Before this decision was made trains were delivering between 500 to 1,500 tons of construction material daily into the Alençon - Chartres area. But after these trains were diverted to support the two army groups and feed the civilian population of Paris around the middle of the month, the engineers had to rely on organic transportation, and it was not enough.⁷¹ In addition to dedicating trains to move pipeline construction material during the first half of August, COMZ had initially committed one of its precious 10-ton truck companies to moving POL pipeline material from 22 to 25 August, but this company was shifted over to line of communication duty on the Red Ball starting on the 26th.⁷² In early September the 12th AG G-4 implored COMZ to prioritize rail and pipeline construction over all other projects, but this could not be accomplished because there was insufficient lift to deliver building materials.⁷³ Expanding the theater rail service was complicated by similar resourcing challenges. Initially ETOUSA had hoped to import new engines and cars from the UK to meet most of their needs, but the delivery schedule fell further and further behind due to the damage at Cherbourg and

⁷¹ DeArman, 113.

⁷² Landon, MTB, 15-16.

⁷³ 12 AG G-4 AAR, 6 Sep 44, 2. Moses and Bradley were never asked to pick among rail repair, POL pipeline construction, or the delivery of another 1,500 tons of supplies at the front.

because of conflicting discharge priorities at the other major ports.⁷⁴ By the end of October, despite the opening of Dieppe and Marseilles as additional entry ports for rail equipment, imports had met only 33% of the engine requirement and 28% of the cars needed to maintain six main trunk lines.⁷⁵ Through the end of October the Allies had landed 929 engines and over 16,000 cars, which joined 399 engines and 25,648 cars liberated from the enemy. Admittedly, 142 of the captured engines were under repair as of 15 October. If one adds together the figures for captured and liberated stock, the percentage of assets on-hand versus required rolling stock by mid-October, as gauged by ETOUSA's transportation section, climbs to 47% of the engines and 72% of the rolling stock. Despite the urgent need for more engines, ETOUSA could not import them quickly enough, nor could it force air and ground combat units to stop gleefully shooting them full of holes.⁷⁶ Moses noted in the 12th AG AAR published on 6 September that "air forces have been requested not to destroy transportation facilities difficult to replace."⁷⁷ By the next month this had been strengthened to a directive to 9th AF to stop attacking rolling stock in the forward combat area.⁷⁸ Obviously the logisticians understood the importance of capturing functional rail equipment, but it seemed easier to get people to start destroying things and much harder to convince them to stop.

⁷⁴ There was also a reluctance on the part of the British War Office to release engines and rolling stock earmarked for France but working in the U.K. Their position was that the trains would only be released once the coastal ships on loan to 21st AG was returned and could take up the slack in hauling capacity. 21st AG's position was that the ships were vital until more rail capacity was generated on the continent, or deep-water ports opened closer to the frontlines.

⁷⁵ RG 407, Box 216. Periodic reports of the TC, ETOUSA.

⁷⁶ History of the ETOUSA G-4, Section III: Supply by Road, Air, and Water. RG498, UD 578, Box 3931, ADM 553A, 1. Unit histories written in 1944 and 1945 fully acknowledged the role played by Allied air power and the French resistance in destroying the rail infrastructure west of the Rhine. Stopping these attacks after they were no longer necessary proved almost as difficult as getting the transportation plan approved in the first place.

⁷⁷ 12th AG G-4 AAR, 6 Sep 44, 2.

⁷⁸ 12th AG G-4 AAR, 7 Oct 44, 2.

STATUS OF ETO ROLLING STOCK

| <u>MONTH</u> | <u>IN U.K.</u> | | <u>ON CONTINENT</u> | |
|----------------|----------------|------------------|---------------------|------------------|
| | <u>LOCOS</u> | <u>FRT. CARS</u> | <u>LOCOS</u> | <u>FRT. CARS</u> |
| JULY 1944 | 1,782 | 20,027 | 53 | 344 |
| AUGUST 1944 | 1,650 | 15,554 | 249 | 4,817 |
| SEPTEMBER 1944 | 1,323 | 8,877 | 685 | 11,799 |
| OCTOBER 1944 | 1,081 | 3,407 | 929 | 16,974 |

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Table 7.4: Import of rail assets to the continent, Jul - Oct 44⁷⁹

E.T.O. ROLLING STOCK REQUIREMENTS

SIX LINES OF COMMUNICATIONS

| | <u>T.C.</u> | <u>E.T.O.</u> | <u>REQUIREMENTS</u> | |
|---------------------|-------------|---------------|---------------------|---------------------|
| | | | <u>IN U.K.</u> | <u>ON CONTINENT</u> |
| <u>LOCOMOTIVES</u> | | | | |
| 2-8-0 Steam | | 2,200 | 736 | 743 |
| 0-6-0 Steam | | 504 | 345 | 73 |
| 650 H.P. Diesel | | 50 | 0 | 56 |
| 500 H.P. Diesel | | - | 0 | 10 |
| 350 H.P. Diesel | | 50 | 0 | 37 |
| 150 H.P. Diesel | | - | 0 | 10 |
| <u>FREIGHT CARS</u> | | | | |
| 20 Ton Box | | 25,000 | 818 | 8,237 |
| 20 Ton Gondola | | 12,600 | 734 | 4,070 |
| 50 Ton Flat | | 6,000 | 480 | 1,040 |
| 40 Ton Gondola | | 5,700 | 584 | 2,207 |
| 40 Ton Tank | | 3,500 | 21 | 689 |
| 20 Ton Caboose | | 3,200 | 730 | 30 |
| 35 Ton Refrigerator | | 1,200 | 40 | 160 |
| 20 Ton Flat | | - | 0 | 441 |

Note: Above figures are joint U.S. and British

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Table 7.5: Rail assets versus requirements (imports only)⁸⁰

⁷⁹ RG 498, UD 578, Box 3881, OCOT Monthly Progress Reports.

⁸⁰ RG 498, UD 578, Box 3881. These figures do not include material captured or liberated from the Germans.

Because of equipment shortages and destroyed lines, bridges, and maintenance facilities, only two or three trains a day were making it past Chartres by 1 September. But despite these numerous challenges, rail began to contribute significantly to Allied lift capacity by the middle of September. By then Paris was receiving 6,000-7,000 tons of supplies a day by rail and forwarding another 5,000-6,000 tons for the ADSEC and its supported combat units. By 1 October, 9,000-10,000 tons left Paris by train daily, headed east to support 12th Army Group.⁸¹ As rail capacity increased in the 30 days between mid-September to mid-October, it allowed Ross to rely almost exclusively on trains for long-haul missions and redirect the quartermaster truck companies to support the armies and base sections over shorter stretches of road.

One method of transportation whose exploitation might have made a difference in September and October was the river and canal network of central France. SHAEF and ETOUSA were initially dismissive of the potential offered by inland waterways, but when Paris faced a civilian fuel crisis over the winter of 1944-1945, planners reconsidered this decision. An inland waterways committee had been formed at COMZ in September, composed of representatives from the Office of the Chief of Engineers, Transportation, and the G-4 as its key members.⁸² Ross activated an inland waterways division within his office on 7 November and directed them to monitor and coordinate traffic along the Seine; the first coal barge had left the port at La Havre bound for Paris the day before. For the duration of the month shipments up the river averaged 267 tons daily, rising to almost a thousand tons a day in December. After clearing the water obstacles emplaced by the Germans around Le Havre, which allowed the port to open on 25 September, the major impediment to using the Seine as a highway was the wreckage from

⁸¹ DeArman, 6.

⁸² History of the ETOUSA G-4, 69, RG 498, UD 578, Box 3931, ADM 553.

bridges destroyed by Allied aircraft and the need to move or raise the tactical bridging erected by the British Army back in August and September. With a bit more foresight, barges might have moved an additional 300 tons of supplies every day in October, climbing to 1,000 tons daily by early November. This would not have helped with the pursuit and first attempts to crack the Westwall, but it would have sped the rehabilitation of 12th AG in November and the first half of December.

Exploiting the huge fleet of cargo aircraft offered another partial solution to the Allied distribution shortfall. After alleviating 3rd Army's fuel and critical-item shortages on 25 and 26 August, air transport was largely unavailable between 29 August and 3 September. For this critical week SHAEF was paralyzed by the debate over the best way to use its fleet of transportation aircraft. Marshall, Arnold, Montgomery, and the senior leaders within the 1st Allied Airborne Army were keen to test out the concept of aerial envelopment at the operational level, either to encircle a large pocket of retreating Germans or to unhinge the first coherent defensive line east of Paris.⁸³ Meanwhile, it had slowly dawned on the joint and logistics planners at SHAEF, and among the key leaders in 12th AG, that air transport might best be used to move critical supplies, especially during mobile operations where trains could not keep up with the advancing armies.⁸⁴ To the despair of the logisticians, Eisenhower felt compelled to use the Airborne Army in a major operation, and Montgomery obliged him by continuing to develop schemes to do so. As a result, SHAEF lost access to a fleet that could have theoretically moved 3,000 tons of supplies daily during a critical phase of the pursuit.

⁸³ Pogue, *The Supreme Command*, 279-281.

⁸⁴ Blumenson, 679-680. 12th AG G-4 AAR, 6 Sep 44, 6. Blumenson argues that Bradley pushed to Tournai so quickly on 1 September to prove his point about the irrelevance of airborne operations during a pursuit. Moses argued the same point in his AAR for operations during August. See chapter five of this study for SHAEF joint planner assessments of various airborne schemes in Brittany.

The October Collapse of the Distribution System and Allied Reaction

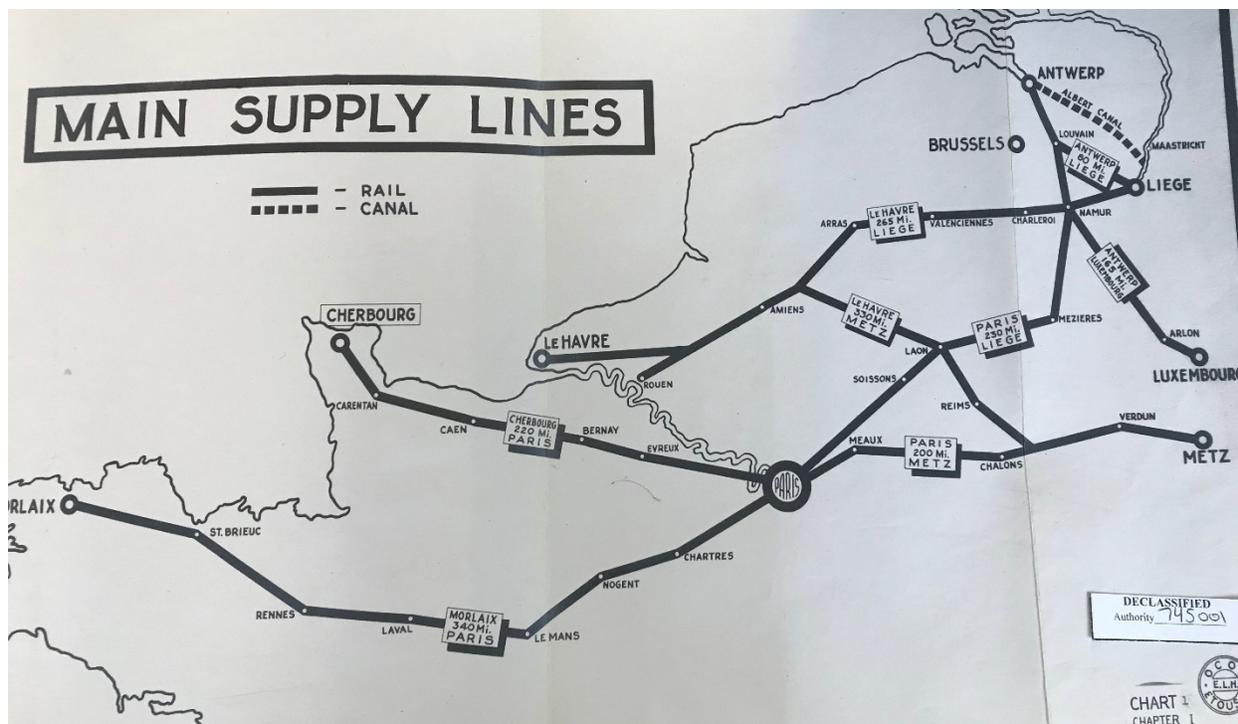


Figure 7.4: The Allied LOC by mid-Oct 44⁸⁵

The Problem

As one reads ETOUSA documents written in October 1944, it appears that the supply situation within 12th Army Group actually got worse in comparison to September, which seems at first glance to be counterintuitive. The length of the Allied line of communications stabilized or in some cases got shorter, the capacity of the rail system increased significantly, and the terminus of the POL pipelines reached the west bank of the Seine at Rouen and Versailles, simplifying the mission of getting fuel to the armies. But these gains were offset by expanding demands in the combat zone with the arrival of new formations and the units that had been left

⁸⁵ The Transportation Corps in the Battle of France, Volume V, Part 1. RG 498, UD 578, Box 3956.

behind during the pursuit and with the increasing ammunition expenditure in the face of stiffening German resistance. But what remains inexplicable is that, in the aggregate, COMZ delivered about the same or a little less tonnage in October than they had in September. This seems to have been the result of transitioning too quickly over to trains in order to meet long-distance distribution demands in the theater, before ETOUSA had confirmed that rail could replicate the performance of the Red Ball Express during its most efficient and effective period. Regardless why it happened, COMZ could not deliver enough material to keep the armies satisfied, failed to meet their own projected transportation goals, and turned in a slightly less effective performance in October than they had managed in September.

One notes the rising frustration within 12th Army Group at COMZ's performance in the difference in tone between the September and October G-4 monthly summary. In September Moses had mentioned a concern about shortages of some types of service units and a lack of repair parts for the Sherman and M12 self-propelled howitzer, but these were posed as nothing the command could not work around. He knew about the distribution problems that were causing headaches throughout SHAEF, but he believed that sufficient coping mechanisms could be put in place to keep the campaign on track. But the change between the optimism of September and the frustration voiced in October and November was dramatic.

Obviously, all of the problems referenced in the 7 October report submitted by Moses had not just developed over the last four weeks. Doubtlessly many small issues had been building up at the tactical level, but either they had not become apparent at the army and army group level or else could be dismissed as not pressing in the big picture. But a month later the U.S. Army was engaged in some of the toughest combat it had yet witnessed in Europe, and issues that had been considered minor irritants were now registering as big problems. What was

worse, all the hard work happening at COMZ, the improved procedural systems, and expanded distribution capacity did not seem to be alleviating the supply problems of the front-line divisions and corps.

Moses acknowledged that deliveries to the combat zone for September were up across the board when compared to August, but they were still not keeping up with the increasing demands driven by more intensive combat and the larger number of troops in the forward area. His most pressing concern near the end of September was just how much of his 10,000 daily tons consisted of material the army group had not asked for, material that was only marginally useful or outright worthless.⁸⁶ Ammunition had displaced fuel as the critical commodity for the army group, and the situation was reported as dire in a few key types of munitions:

| Round | Inventory | Rnd Per Gun Per Day | U/F per day |
|--------------------|-----------|---------------------|-------------|
| Hvy 81mm HE | 23,000 | 2.0 | .178 |
| 81mm WP Smoke | 18,000 | 1.6 | .105 |
| 105mm How Smoke | 1,170 | .54 | .010 |
| 155mm How Smoke | 1,400 | .28 | .004 |
| 155mm How (M1) HE | 70,000 | 14.3 | .212 |
| 155mm Gun WP Smoke | 880 | .40 | .008 |
| 8-inch How HE | 9,000 | 7.8 | .156 |
| 8-inch Gun HE | 600 | 3.1 | .089 |
| 240mm HE | 1,800 | 3.8 | .150 |

Table 7.6: 12th AG artillery stocks, 26 Sep 44 and controlled fire rates for 27 Sep to 5 Oct⁸⁷

⁸⁶ 12th Army Group G-4 Monthly AAR, 7 Oct 44, 1.

⁸⁷ G-4 Weekly Report, 26 Sep 44, 12th Army Group Periodic Reports, RG 407, Entry 427, Box 1346. Artillery ammunition availability to the U.S. Army in the fall of 1944 is a topic that has already been addressed in great detail by other authors. Many of the shortages experienced that fall were caused by production shortfalls, not any requisition or delivery problems at COMZ. The tactical impact of these shortages is debatable. First, there was enough HE ammunition for the divisional artillery to guarantee adequate support to the infantry regiments. The most common models of 105mm and 155mm howitzers and the 4.5-inch gun were authorized to fire between 20 and 40 rounds a day per gun. In a defensive emergency or pre-planned attack, battalions could fire a lot more, either by stockpiling before the attack, or by blowing through up to a week's worth of ammunition and figuring out how to cross-level or resupply after the crisis. The one limitation of note was the lack of smoke. This was a capability that

Other supply shortages that made Moses's weekly report of 26 September were food, fuel, Browning Automatic Rifles, 60mm mortars, M8 armored cars, tires, medium tanks (Shermans), and replacement tank engines. The monthly consolidated report submitted about two weeks later reiterated the severity and impact of the shortage of tires and repair parts; the army group had no choice but to ask for replacement vehicles because it could not fix minor breakdowns in the existing fleet.⁸⁸ A shortage of 5-gallon jerry cans was hampering fuel resupply and distribution down to the lowest levels, although Moses did acknowledge that a lack of supply discipline within the army group contributed to the loss of millions of these cans, the inefficient use of fuel and other supplies, and hoarding at every level within the U.S Army. LTG Gale had himself noted in his diary back in February 1943, in extreme frustration, that the chief prerequisite to be considered a good logistics officer in the U.S. Army was the ability to "amass as great a quantity of supplies and stores as possible by any means whatsoever. His value as an officer is judged by the magnitude of his 'dump.'"⁸⁹

Frustrated by the supply situation at the front in October, Moses was forced to admit that the logistics community had started creating the current conundrum back in June and July. There had been such a rush to unload and stash supplies in Normandy that it had overwhelmed Allied

was particularly useful during an attack, especially when forced to cover long stretches of open ground. Smoke helped block enemy long-range observation and direct fire. These shortfalls at the army level might have been offset by smoke maintained for 60mm mortars and 75mm guns down at the infantry regiment or below. Tanks and tank destroyers also fired smoke rounds, either 75 or 76mm, or 3-inch based on the main armament of the vehicle. Heavy artillery ammunition, useful against strong fortifications or against enemy guns, was in extremely short supply. Luckily for the U.S. Army, the Germans did not have a lot of long-range artillery or shells for the guns they did possess.

⁸⁸ 12th AG G-4 Monthly AAR, 7 Oct 44, 3.

⁸⁹ Gale War Diary, 18 Feb 43. Collection II, Items 1-13, Liddell Hart Center, King's College. Pilfering had gotten so bad at Ouled Rahmoun that AFHQ dispatched a force of military police to guard supplies, arrest looters, and conduct courts martial. Gale went on to provide five specific examples of U.S. hoarding and his explanation as to why this was an American vice, which did not but probably should have included a complete lack of confidence in NATOUSA, ETOUSA, SOS, and COMZ procedures. It is also probable that pilfering and acts of indiscipline in II Corps had spiked as a result of the recent reverses. Periods of intense stress always seemed to trigger more frank comments by Gale in his diary as well.

capacity to log and store the material for easy retrieval. Non-essentials clogged the pipeline, in the holds of ships awaiting discharge, in the dumps across Normandy, and on the trucks and trains headed to the front. COMZ had no choice but to continue to unload ships as quickly as they could, regardless the relative importance of the cargo, because the ASF and War Ministry needed them back on the global lanes. It was the same story when it came to clearing out the depots in Normandy; items had to be pushed to the east in order to make room for the tens of thousands of tons of material coming off the ships every day. Here was a theater logistical system that was virtually running on autopilot, with months and months of equipment in the pipeline and no alternative but to unload it and stash it somewhere on the continent as quickly as possible.⁹⁰

The logistics staff at 12th AG had tried to do everything they could to help COMZ and ETOUSA overcome their distribution backlog. Moses's extensive background as an operational planner in London and with 21st Army Group and then as the senior U.S. logistician ashore until 7 August gave him a theater-level perspective on SHAEF's supply challenges and on ways to overcome them. In August and September, the army group had taken steps to ensure that VIII Corps, tied down outside of Brest, was supplied using coastal shipping to the maximum extent possible, freeing truck and rail assets for 1st and 3rd Armies. In his summary of lessons learned covering the month of September, Moses shared with Bradley that the idea of using B-24s as substitutes for C47s was his suggestion, as was the push to completely revise the SHAEF SOP on air resupply. Moses reported to Bradley that the army group had redirected every FA and AAA battalion possible into the business of forming provisional truck companies and that the

⁹⁰ In their defense, the ASF proposed turning off the flood of shipping to ETOUSA that fall, but backed down largely because of the appeals of MG Ross. See Ruppenthal, Vol. 2, 126-130. ETOUSA did not begin to make a dent in the backlog of ships until December.

other service troop shortages noted in September had been resolved. Offering his boss a longer-term assessment of the distribution problem, Moses went into detail on the technical and procedural work ongoing at SHAEF and ETOUSA designed to increase deliveries, but he concluded that the only comprehensive solution to the logistics dilemma was a radical reduction in the length of the LOC. Once Marseilles was opened to ocean-going vessels it would begin to take some of the pressure off of the distribution system, but getting Antwerp open was what really mattered.

The Discrepancy Between Promises and Deliveries by OCOT in October

Were Bradley and Moses justified in their frustration with COMZ's performance in October and November? Table 7.6 demonstrates that the total tonnage reaching 12th AG was almost exactly the same in the second half of September and the first half of October; the only noticeable difference is the method of transportation and the internal distribution of that tonnage. Deliveries to ADSEC increased by a factor of 2.5, from 15,640 to 38,178 tons, and there was a slight increase in the portion of supplies allocated to 9th AF. The amount of supplies going to the armies decreased by about 26,000 tons; averaging out to 1,850 fewer tons per day, the decrease was largely confined to 3rd and 9th Armies. Deliveries by truck and air transport dropped to about half their 16-30 September figures, while rail tonnage increased by a factor of 1.5.

16-30 SEPTEMBER 1944

| CARRIED BY | FIRST ARMY | THIRD ARMY | 9TH ARMY | 9TH AIR FORCE | ASCZ | TOTAL |
|------------|------------|------------|----------|---------------|--------|---------|
| MOTOR | 46,583 | 49,447 | 1,342 | 7,800 | 15,100 | 120,272 |
| RAIL | 36,196 | 48,559 | - | 6,060 | 258 | 91,073 |
| AIR | 5,228 | 1,771 | - | 255 | 282 | 7,536 |
| TOTAL | 88,007 | 99,777 | 1,342 | 14,115 | 15,640 | 218,881 |

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| CARRIED BY | FIRST ARMY | THIRD ARMY | 9TH ARMY | 9TH AIR FORCE | ASCZ | TOTAL |
|------------|------------|------------|----------|---------------|----------|---------|
| MOTOR | 12,142 | 2,347 | 1,905 | 6,891 | * 37,428 | 60,713 |
| RAIL | 72,535 | 56,754 | 12,635 | 10,154 | 750 | 152,828 |
| AIR | 1,770 | 2,100 | 465 | 42 | - | 4,377 |
| TOTAL | 86,447 | 61,201 | 15,005 | 17,087 | 38,178 | 217,918 |

Table 7.7: ADSEC recorded deliveries, II Sep vs I Oct 44⁹¹

It is difficult to determine why deliveries by truck fell off through October or to completely trust the reports generated by OCOT, but ETOUSA figures indicate a slow decline during the first week of October followed by a catastrophic collapse after 8 October. This cannot be attributed to a major reduction in the number of units assigned to ETOUSA or the operational readiness rate of the truck fleet; no reason was given for the drastic falloff in truck deliveries. Perhaps some provisional truck companies were disbanded and their personnel returned to their parent divisions, while other companies were redirected to port clearance and static operations or

⁹¹ 12th AG G-4 Periodic Reports, RG 407, Entry 427, Box 1346.

else sidelined for extensive maintenance. Contemporary records and official histories do not offer any clues.

| | | | | | | | | | | | | |
|-----|-----|-------|-------|------|----|----|---------|-----|-----|-----------|------|----------|
| 11 | 16 | 20 | 22 | 24 | 25 | 26 | 28 | 30 | 1 | 2 | 17 | 18 |
| Sep | | | | | | | | Sep | Oct | | | |
| 8k | 10k | 10.5k | 12.2k | 9.4k | 7k | 9k | 13 k | 7k | 5k | 11.6 k | 9.2k | 8.4 k |

Table 7.8: Daily deliveries to 12th AG, Sep to Oct 44, all means of transportation

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| TONNAGE HAULED BY MOTOR TRANSPORT SERVICE LINES OF COMMUNICATION FOR OCTOBER 1944 | | | | | | | |
|---|----------|------------|-----------|---------------|---------------|----------------|--------|
| DATE | RED BALL | WHITE BALL | BULK POL. | GREEN DIAMOND | LIONS EXPRESS | RAIL CLEARANCE | MISC. |
| 1 October | 6,836 | - | 2,283 | - | 1,272 | 7,500 | 960 |
| 2 " | 8,520 | - | 1,348 | - | 455 | 7,058 | 1,105 |
| 3 " | 8,928 | - | 1,736 | - | 115 | 7,315 | 809 |
| 4 " | 7,487 | - | 2,890 | - | 632 | 9,074 | 1,577 |
| 5 " | 6,643 | - | 2,224 | - | 1,074 | 10,866 | 2,737 |
| 6 " | 5,998 | 260 | 3,085 | - | 106 | 9,813 | 2,761 |
| 7 " | 7,513 | 360 | 2,795 | - | 771 | 10,597 | 1,450 |
| 8 " | 7,345 | 348 | 2,630 | - | 680 | 8,185 | 2,226 |
| 9 " | 6,297 | 583 | 3,740 | - | 145 | 7,289 | 2,793 |
| 10 " | 5,415 | 325 | 886 | - | 1,120 | 6,580 | 2,610 |
| 11 " | 4,362 | 990 | 1,350 | - | 165 | 6,391 | 1,010 |
| 12 " | 4,989 | 598 | 891 | - | 568 | 6,193 | 2,239 |
| 13 " | 3,995 | 772 | 1,222 | - | 942 | 4,733 | 975 |
| 14 " | 3,905 | 225 | 1,052 | - | - | 7,917 | 960 |
| 15 " | 4,287 | 157 | 271 | 1,698 | - | 6,083 | 1,955 |
| 16 " | 5,976 | 643 | 1,926 | 1,091 | - | 6,096 | 834 |
| 17 " | 4,095 | 1,140 | 1,926 | 1,177 | - | 4,096 | 838 |
| 18 " | 4,376 | 1,078 | 1,753 | 1,074 | - | 3,011 | 960 |
| 19 " | 4,287 | 1,166 | 1,753 | 456 | - | 5,488 | 960 |
| 20 " | 3,961 | 835 | 2,071 | 380 | - | 5,638 | 1,122 |
| 21 " | 4,751 | 522 | 2,762 | 405 | - | 7,282 | 713 |
| 22 " | 5,271 | 1,389 | 2,140 | 525 | - | 7,555 | 970 |
| 23 " | 4,520 | 1,386 | 2,572 | 454 | - | 5,999 | 968 |
| 24 " | 4,008 | 1,130 | 2,558 | 799 | - | 6,853 | 1,477 |
| 25 " | 2,711 | 1,174 | 2,123 | 1,025 | - | - | 745 |
| 26 " | 3,393 | 819 | 2,490 | 764 | - | - | 934 |
| 27 " | 3,001 | 2,419 | 2,185 | 1,087 | - | - | 840 |
| 28 " | 3,257 | 1,910 | 2,887 | 1,051 | - | - | 960 |
| 29 " | 1,888 | 2,315 | 3,870 | 1,277 | - | - | 986 |
| 30 " | 2,249 | 1,444 | 2,830 | 364 | - | - | 890 |
| 31 " | 1,297 | 1,814 | 2,408 | 1,523 | - | - | 835 |
| TOTAL | 151,561 | 25,702 | 66,657 | 15,150 | 8,045 | 172,612 | 41,199 |

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Table 7.9: OCT LOC deliveries using MT, Oct 44

⁹² Assembled from various daily and weekly reports at 12th AG and ADSEC, 12th AG G-4 Periodic Reports, RG 407, Entry 427, Box 1346.

Regardless the reasons why, motor transport was only half as effective in October as it had been in September, despite assurances of maximum effort from ETOUSA and promises that they had turned the corner in working out problems with the transportation network. The collapse of support by trucks was balanced out by an equal increase in rail service, but COMZ deliveries flat lined at precisely the time 12th AG was trying to recover from the exertions in August and September and mount one more attack north of Aachen designed to finally penetrate the Westwall. It seems that in the second half of October two forces impacted ETOUSA's ability to haul supplies with trucks. First, the overall capacity collapsed after months of maximum exertion and deferred maintenance. Second, the trucks that could be put back in the fight were shifted over to rail clearance and miscellaneous missions at the expense of long-distance hauling. Evidently 12th Army Group was not notified of this decision in advance, or if they were, Moses did not find the arguments for these changes convincing. Perhaps COMZ had learned that, if given a choice, SHAEF and 12th AG would never prioritize the long-term health of the troops running the line of communications at the expense of accomplishing operational and tactical objectives, and COMZ just made the decision on their own.

| | Total 17 Oct | CLS I | III | II & IV | V | 18 Oct |
|---------------------|-----------------|-------|-------|---------|-------|--------|
| 12 th AG | 9,178 | 2,906 | 3,792 | 950 | 2,667 | 8,406 |
| 1 st AR | 4,668 | 1,096 | 1605 | 505 | 1462 | 4434 |
| 3 rd AR | 3,531 | 1,153 | 1426 | 94 | 858 | 2845 |
| 9 th AR | 2,116 | 657 | 761 | 351 | 347 | 1127 |

Table 7.10: Tons of supplies delivered to 12th AG from evening 16 to 17 Oct 44 by type and 18 Oct total only.⁹³ Numbers reported by ADSEC, transported by air, rail, and truck

⁹³ BG Moses "Supplies to Armies" 19 Oct 44; daily G-4 report forwarded to General Bradley, RG 407, Entry 427, Box 1346.

The reduction in average daily deliveries in October came as a surprise to 12th AG and SHAEF. If anything, both organizations had been led to believe that significant relief to the transportation crunch was just around the corner. At some point in September OCOT began to publish transportation forecasts on the 20th and 5th of each month; these forecasts established performance goals for the distribution network and provided official figures to drive planning within the army group.⁹⁴ The transportation projection prepared by OCOT for 1 October (covering 1-15 October) called for 11,800 tons to reach the three operational armies each day, with another 3,200 tons going to 9th AF. Actual deliveries during this period reached about 80% of these projections, with about 12,000 tons reaching the three armies and 9th AF each day, resulting in a two-week deficit of 45,000-tons of promised but undelivered supplies. Furthermore, as we have already seen, Moses claimed that deliveries in September and October had still consisted of entirely too high a percentage of unrequested and unnecessary items.

In the second half of October the transportation network finally hit its stride; and both total deliveries and the percentage of useful material reaching the armies began a steady climb. By November most shortages at the tactical level had been filled, reserves had been established under ADSEC control, and the requisition and distribution system had been refined to the point where the theater knew what was available, where it was stored, and could deliver it to the combat zone quicker than ever before. In November and December, the challenge of managing the most difficult aspects of the theater logistics system shifted over from COMZ and onto 12th Army Group. By then COMZ was unloading a staggering amount of material at the ports and transferring it to the front, primarily by train. So much material was reaching the ADSEC that

⁹⁴ COL D.W. Traub, "Control and Planning Division". Transportation Corps History, March 1944 – 9 May 1945, RG 498, UD 1210, Transportation Section, Box 5981. It appears that the first forecast covered 1-15 October 1944.

the problems last experienced in Normandy in June and July began to resurface. Plank could not unload trucks and trains quickly enough, and, in the rush to stay ahead of the flood, items were stashed in the wrong places, making efficient retrieval almost impossible. This resulted in a mismatch between what was on inventory versus what could be quickly found and delivered to combat divisions. It had come too late to rescue Eisenhower's objectives for the fall campaign, but by 1 November OCOT was finally capable of successfully managing their portion of the theater distribution chain.

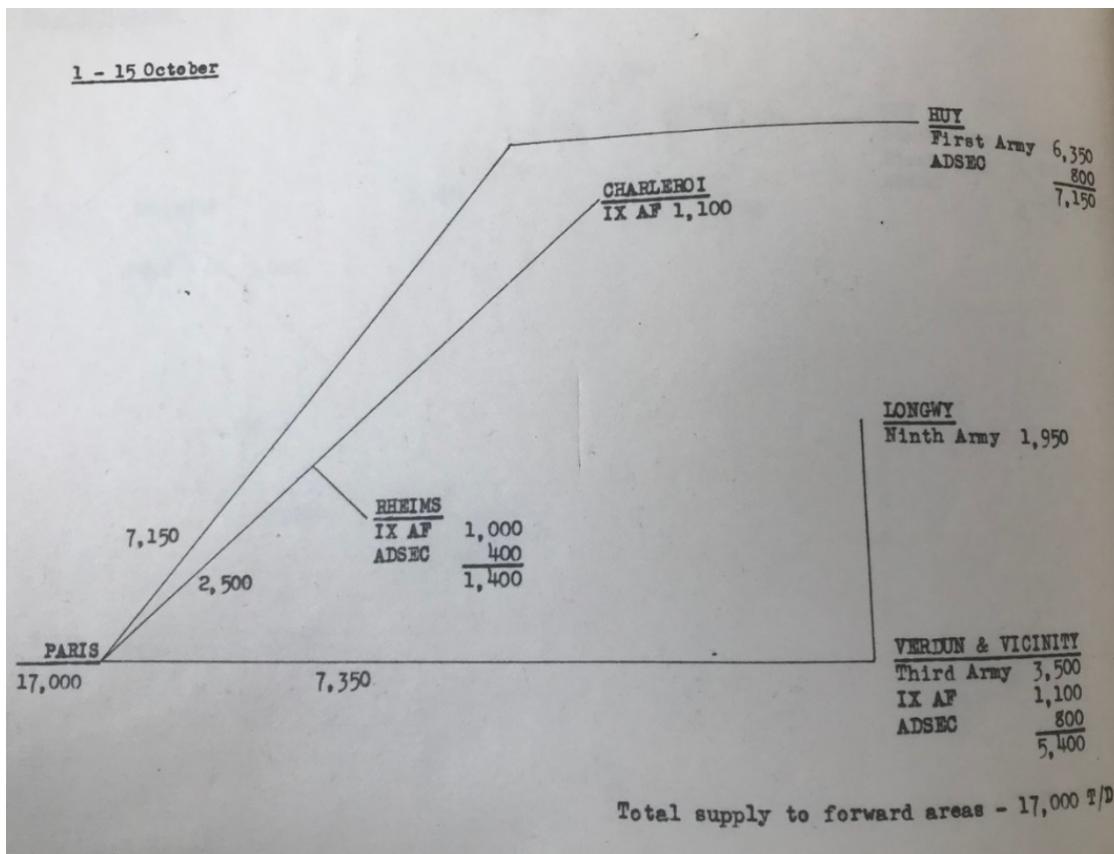


Figure 7.5: OCOT transportation forecast, 1-15 Oct 44

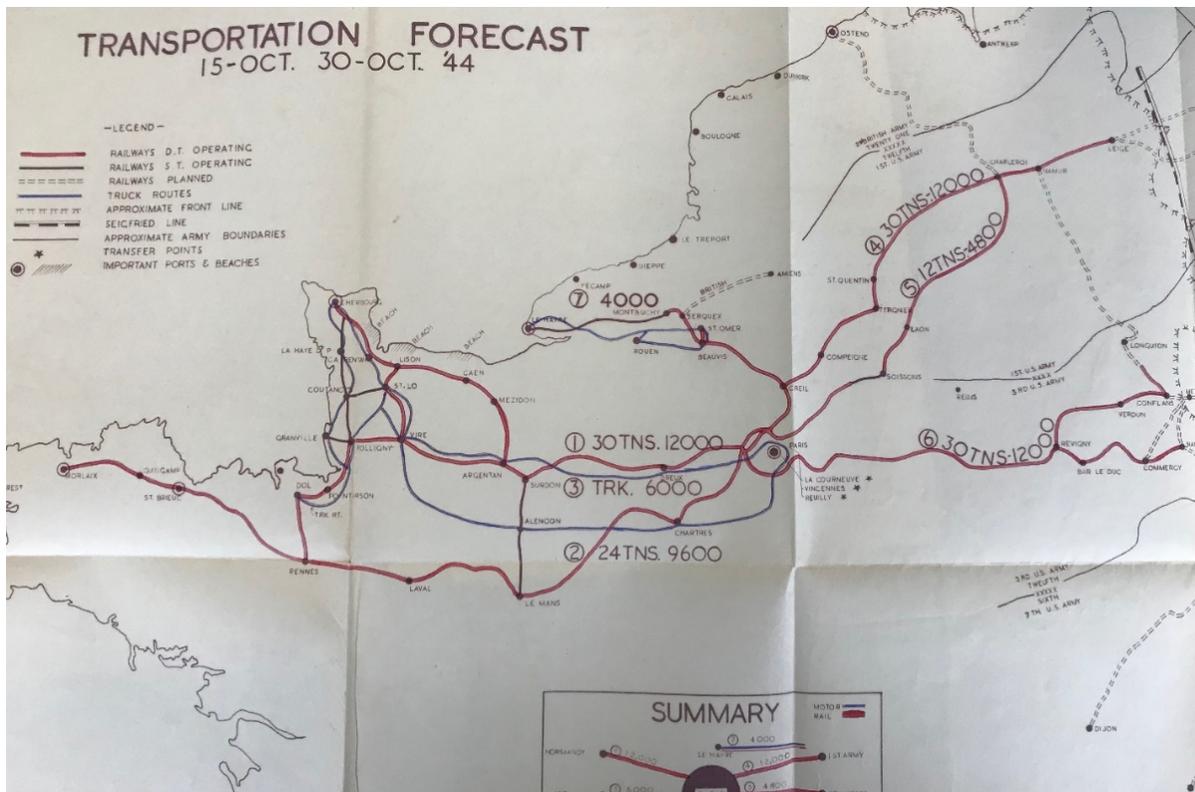


Figure 7.6: Transportation forecast 15-30 Oct 44

Integrating the Lessons of the Pursuit into ABC and XYZ

COMZ and OCOT might not have been ready for the challenges of August and September, and slow to react to the changing nature of the distribution network in October, but they tended to learn from their mistakes. The American-British-Canadian (ABC) operation was a logical continuation of the Red Ball Express, designed to synchronize the delivery of supplies flowing through Antwerp and other Channel ports down to the armies. The operation was conducted in November and early December. By then ETOUSA had fielded a significant number of heavy tractor-trailer truck companies, which revolutionized the speed with which supplies could be shuttled to the armies. With two trailers fielded for every tractor, the crew could drive into Antwerp, hook up to a trailer that had been loaded hours or even days earlier, drop the full trailer at the appropriate army dump, immediately connect to an empty that had

been unloaded the day prior, and head back north. Turnaround times at the port and dump were shortened to a few hours, which included time for a meal or an exchange of drivers and for a quick inspection of and simple maintenance on the tractor.⁹⁵ The size of the bulk POL fleet was increased by placing skid-mounted 750-gallon tanks up on trailers, potentially turning any standard 2.5-ton truck into a designated tanker. Skid tanks were designed to make it easy for a crane or forklift to pick them up (empty) and put them on ships, trains, or trucks. Up to four tanks fit on a 25-foot trailer pulled by a 10-ton tractor, turning each into a 3,000-gallon tanker. It also increased flexibility because each truck could carry up to four different types of fuel if necessary.

By March 1945 all of these improvements had been honed to perfection. OCOT's XYZ transportation plan was designed to sustain the Allied drive over the Rhine and into the last corners of the Reich. It married efficient and focused aerial resupply with a finely tuned motor transportation system. Ross allocated 238 2.5-ton company equivalents to the long-distance hauling mission; another 200 truck companies were assigned to port clearance and static operations.⁹⁶ The single MTB and transportation section at the ADSEC from the Overlord days was replaced by three highway transportation divisions, one being assigned to directly support each army. These organizations combined the command-and-control function of the MTB with the staff coordination function of the motorized transportation section of the ADSEC or OCOT. Each highway transportation division command post was collocated with the army rear CP to ensure effective communication. COMZ hoped to keep railheads no more than 200 miles behind the forward divisions, reducing the scope of truck resupply to 400 miles of round-trip distance

⁹⁵ History of TS, ETOUSA 1942-1945, 15. RG 498, UD 1210, Transportation Section, Box 5981.

⁹⁶ Ibid, 17.

every 24 hours. Transferring supplies at the army depots over to divisional trucks became the most time-consuming portion of the process under this system.

The entirely new fleet of heavy trucks that had been landed in theater over the winter allowed the U.S. Army to reorganize the QM Truck Groups. Each group was assigned control over six to seven battalions, each comprised of five to eight companies. At first battalions controlled a mix of various types of companies, but by 1 April ETOUSA was able to reorganize its truck battalions so they consisted of companies all equipped with the same models. Groups controlled a mix of battalions, each of which was assigned a mission that exploited the strengths of their assigned equipment, with 10-ton tractors and trailers used exclusively for long-distance hauling.⁹⁷ The best balance was found to be about 66% 10-ton, 33% 2.5-ton, and one heavy bulk POL battalion per group.⁹⁸ Heavy 10-ton trucks were perfect for areas with well-maintained and wide roads, while 2.5-tons were necessary to reach widely dispersed army-level dumps. Standardization within the battalion was a force multiplier, simplifying the task of getting repair parts into the hands of mechanics at the lowest level possible to keep the fleet running. By the end of the war the transportation section admitted that they still had not worked out two issues with efficient MT support at the theater to division level: the elimination of one unnecessary layer of the chain of command between the HTD, group, and battalion; and the creation of combined-service commands that could integrate MPs, mechanics, route repair engineers, and labor battalions along a named XYZ route to ensure the critical components were under the command of a single authority.

⁹⁷ HQ ADSEC COMZ Transportation Section "Historical Report" 11 Feb 45. Series of T.O.s for 6957th Highway Transportation Division in March and April 1945. RG 498, UD 1304, Box 6399.

⁹⁸ History of the TS, ETOUSA, 28-29.

The window from late-July to mid-October was a critical period for OCOT and COMZ one that corresponded to the most challenging phase of the theater sustainment mission. As projected, ETOUSA was forced to rely exclusively on motor transport, augmented by what proved to be a surprisingly capable air cargo fleet, for about six weeks. Most logisticians suspected this would be unsustainable once large forces were operating east of the Seine, motivating COMZ to pick up as much of the slack with rail and POL pipeline service as quickly as possible. Ross started the pursuit phase with 130 truck companies on the continent, despite the implication by Ruppenthal that ETOUSA was missing 34 of these units, and the number of companies rose to 240 by early September -- the total number Ross originally asked for back in July 1943 in order to reach the Rhine. Admittedly the U.S. Army had subsequently learned that larger trucks with detachable trailers were much more efficient and would largely convert the COMZ long-haul battalions to this type over the winter and spring. Regardless, by mid-September ETOUSA had all the wheeled transport resources they had originally asked for, excluding truck companies organic to the service commands in each numbered air force and organic to 21st Army Group. In theory this should have generated enough lift capacity to supply between two and four U.S. corps all the way to the Rhine.

This did not happen for a couple of associated reasons. First, OCOT relied exclusively on bulk POL companies to deliver fuel to five and then four vanguard formations operating at the end of a line of communication extending between 300 and 400 miles. Simple arithmetic demonstrated that nine heavy and five medium POL companies working over such distances were insufficient, yet COMZ could not convince SHAEF to dedicate aerial transports to make up the difference or to prioritize one thrust while cutting off support to the second. And when SHAEF failed to solve the problem for them with air assets, COMZ failed to come up with

expedient solutions of their own. This resulted in all four leading corps intermittently running out of fuel during the last week of August and the first week of September, contributing to a successful German delaying action that eventually allowed them to cobble together a new line anchored on the Westwall and Moselle. A bit more mental flexibility, or dedicated airlift, might have prevented the periodic halts to the Allied advance that allowed this to happen. Other procedural snags added up; it took too long to load and unload trucks, and too often the cargo consisted of what was easily on hand and not what the armies had asked for. Maintenance support was spotty, both along the Red Ball route and at the major support camps, and repair parts and spare tires were in short supply. All of these problems were exacerbated by poor familiarity with the coordination procedures that did exist as well as by the unworkability of some of those systems in an intense combat environment. Almost no one knew how to do his job within the context of a pursuit across France. ETOUSA/COMZ, OCOT, the base sections, and 12th Army Group all struggled to maintain effective communications among one another. What became obvious immediately was that COMZ was a rookie organization trying to operate in the most complex environment possible, and it showed.

COMZ and OCOT got better, fast, but they also burned a lot of bridges, both with SHAEF and 12th AG, before they could get their act together. Ross and his organization eventually emerged with their reputation largely intact, wrestled more and more control back from the COMZ G-4, and incorporated new equipment and new procedures to make the ABC operation run much smoother than the Red Ball. Admittedly, ABC was an easier mission, but the same principles were applied to XYZ that spring, which finally demonstrated what ETOUSA was capable of when firing on all cylinders. Aerial transport almost reached its theoretical capacity, and a complex array of different types of truck battalions provided exquisite support

over great distances and numerous river obstacles, aided by the improved procedures that had been worked out over six months of trial and error. New organizations ensured tight coordination with the field armies, while old organizations functioned more effectively and efficiently. These were impressive developments, but they could have been implemented much sooner if Lee and his staff had discovered some way to institutionalize the operational experience that existed in NATOUSA, its SOS, and the logistics and movement staff at 21st Army Group. Ross and OCOT were further along in this process than their peers among the special staff sections of ETOUSA, but they were far from perfect; and despite a solid start during the first weeks of August, they proved incapable of properly managing the transportation network at their disposal to help SHAEF achieve its operational objectives in the fall of 1944.

The Challenges Associated with Fueling a Motorized Army

The Allies understood that providing fuel for the air and ground units in France would be one of the most difficult, and most important, tasks faced by COMZ. It was a complex mission that demanded COMZ and the stove-piped technical staff sections at ETOUSA carefully synchronize their activities. It was a distribution nightmare that demanded special trucks, rail cars, and pipelines to reduce the problem to a manageable level. SHAEF projected that by D+90 there would be over a quarter million vehicles in France requiring 6,348 tons of bulk and 858 tons of packaged POL products every day to keep moving.⁹⁹ Establishing a system capable of delivering that volume of fuel to the front line was a monumental task.

⁹⁹ LTC F.W. Burford, "POL Plan" 21 Apr 44, POL Branch, ETOUSA G-4. RG 407, Entry 427, Box 215. Included with other material associated with HQ, FECZ, "COMZ Plan" 14 May 44.

Just before Overlord ETOUSA had finalized an excellent plan to create such a fuel distribution network on the continent. It had been a group effort overseen by LTC F.W. Burford of the POL Branch at ETOUSA G-4, but a wide range of experts from FECZ and 21st AG were essential to the work. The first draft of the document was published on 21 April and the final version was appended to the FECZ COMZ plan in mid-May. This was later than would have been optimal, but, because all of the organizations that would participate in the project had helped write the plan over the last six to eight weeks, they were already familiar with the detailed tasks, equipment, and construction material needed to do their part once in France.

Anyone reading the POL annex to the COMZ plan would quickly notice that the first five pages of the document consisted of nothing but a detailed review of all the planning assumptions and consumption estimates that had been used to come up with the concept of how to build and operate the bulk fuel system. It makes for a tedious read, but the ETOUSA logisticians had learned that these preliminary explanations were essential if they were going to use the document to coordinate with other agencies and to make modifications to the overall plan should a minor assumption or a consumption rate change. In some ways, the lack of similar background material is what allowed the ASF to delay acknowledging the validity of Ross's motor transport requests during the fall of 1943 and April and May of 1944. The ETOUSA G-4 section seemed to have learned its lesson from those experiences and laid out everything the command would have to account for in painful detail at the front of the theater POL plan.

Across the board the assumptions that informed the plan were very reasonable, neither wishing away problems nor overestimating what the command could achieve. The first requirement was to figure out how much fuel was needed to move every Allied vehicle and airplane that would be ashore by D+90 50 miles a day or in the air during daylight hours. After

determining the daily requirements of the different types of bulk fuel in the inventory and the even more complex array of packaged products, the planners tried to determine the troops and material necessary to build and operate the distribution network. This distribution system extended beyond the POL pipelines themselves, and it included discharge and storage facilities at ports, special 10,000-gallon tanker cars for the rail system, four types of tanker and cargo trucks, barrels and cans for distribution to the user level, and the various facilities and service units to keep the system running. Routes for the various pipelines were tentatively selected, and projected construction rates were plotted in daily or weekly increments across northwestern and central France. All this data was finally consolidated on one large map; marginal data along the edges illustrated every aspect of the men and material associated with making the system work. The final product captured a truly impressive amount of staff work.

In hindsight, the only two criticisms that could be leveled were that the plan focused too much on the what, and not enough on the how, and it covered only the period up to D+90, by which point the Allies assumed they would have reached the Seine. Every task required to establish and maintain the network was broken down into micro-components that were then assigned to supervisory headquarters of one type or another, but the plan did not explain who would monitor and adjust these efforts if major changes were called for. The implication was that the engineers would be the lead service and that ADSEC and then COMZ would synchronize support from the other technical services and the base sections. In practice this project suffered from various setbacks, and COMZ decided to create the Military Pipeline Service at the end of September to centralize management of the most complicated aspects of the network.

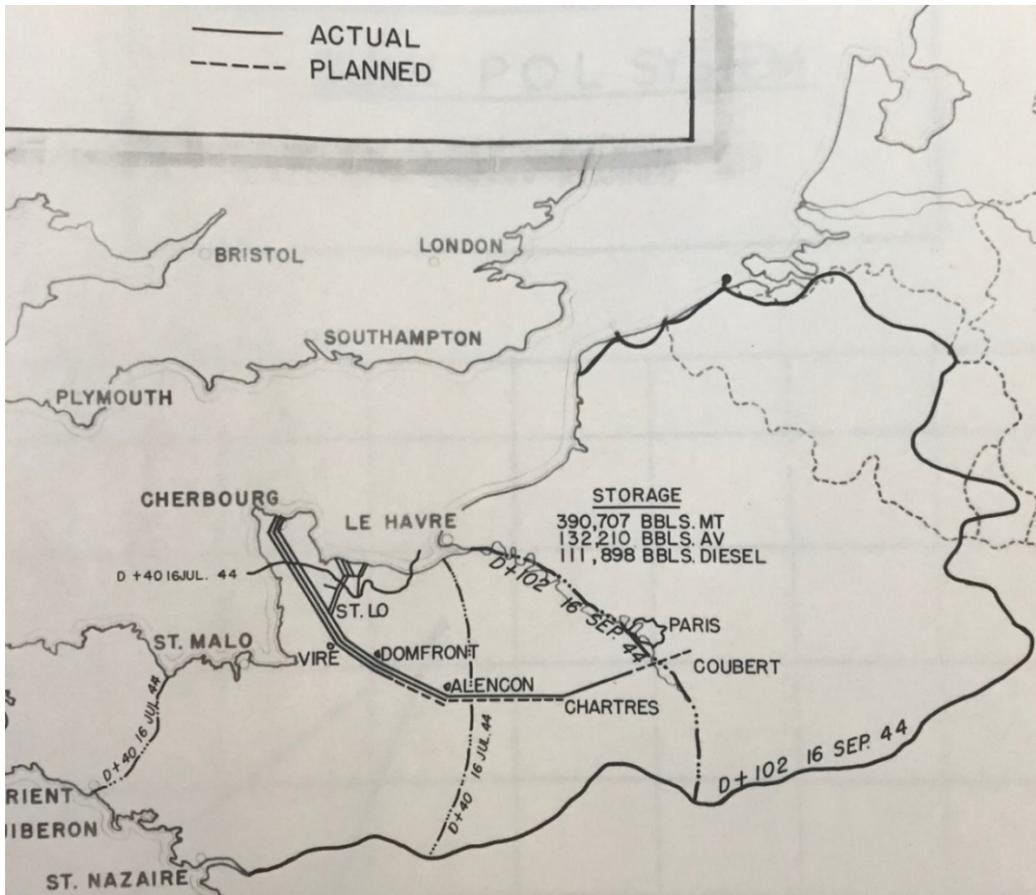


Figure 7.7: POL pipeline construction status, 16 Sep 44

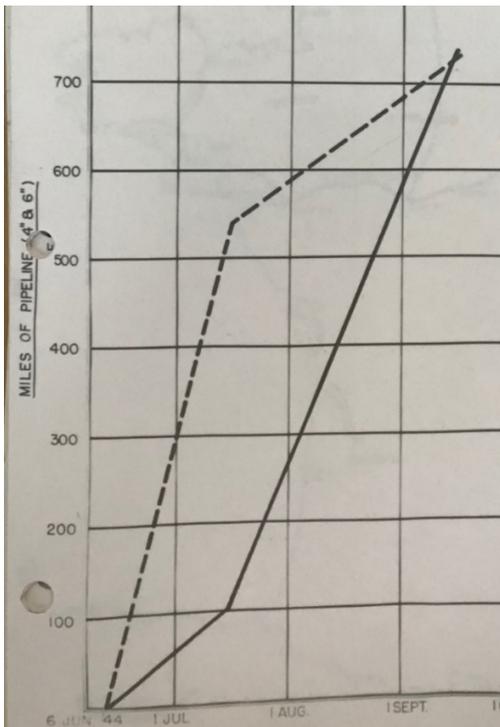


Figure 7.8: POL pipelines, planned (dashed) vs actual (solid) by mid-Sep 44

By creating the MPS, COMZ hoped to simplify the challenges MTB and ADSEC had found so difficult to overcome. At first the construction and maintenance of the POL pipelines were treated as exclusively a Corps of Engineers matter, but as the lines extended further to the east COMZ realized that the engineers could not handle all the necessary coordination by themselves. The engineer regiments needed help from the ETOUSA transportation section to move up construction material; organic dump truck companies were insufficient by themselves. Once the pipelines and pumping stations were built, the ordnance service was supposed to keep the equipment in working order, and quartermaster units were charged with issuing the fuel to users. By August the pipelines ran across territory controlled by two different base sections, and by October this had expanded to four. COMZ was the only organization with the formal authority to task base sections to provide service troops to support the engineers and to adjudicate when competing theater priorities all demanded the same resources. It took a few months for COMZ to realize they did not have the capacity to manage logistics across the theater and simultaneously control the POL distribution system. In September the command took the steps necessary to create an organization that could pick up the slack.

ETOUSA created the military pipeline service (MPS) on 23 September and used the 368th General Service Engineer Regiment (368th GS) to form the core of that organization.¹⁰⁰ The 368th Regiment had been in charge of building the U.S. pipeline system from day one and was well acquainted with what the organization needed to do better in order to improve service to the armies. Support units from other services were then directly attached to the MPS, and the entire

¹⁰⁰ COL JL Person, "Military Pipe Line Service: Individual and Unit History" Aug 45. RG 498, UD 578, Box 3923, ADM 547 (Historical Report USA Corps of Engineers, ETO). COL Person was the commander of the military pipeline service.

organization operated using the procedures explained in the newly published ETO SOP 47. The overall pipeline system was at first broken down into three districts; a fourth was added in October. By the last week of September the POL line terminated at Coubert, on the east side of the Seine; the entire system consisted of 654 miles of 6” and 4” pipe. Running MPS was a complex endeavor that included not only the pipe and pump stations but also had truck loading points and QM decanting stations at a dozen of locations along its length.

COL Person, the commander of MPS, recorded that one of the most significant problems he faced during the first month of operation was the absence of any sort of communications link among the various elements working along the pipelines. Fuel leaks were one of the most frequent and bothersome concerns, and finding and reporting them was an almost impossible task until an information relay could be set up between the pumping stations. Six days after its creation, the MPS instituted a courier service to conduct a round-trip inspection of the line between Cherbourg and Paris every 24 hours and deliver messages to the control stations along the route.¹⁰¹ Another early initiative taken by COL Person was to find, gather, and centrally manage the limited stock of repair parts for the highly specialized machinery on the lines and at the dispensing stations. After a few weeks running the line the MPS realized that much of the damage inflicted on the pipes occurred when Red Ball trucks accidentally ran off the road. To make delivery of construction material easier, the major pipeline system had been built parallel to, and just off the shoulder of, well-used highways. MPS shifted pipes further away from the

¹⁰¹ If the team found significant damage or a leak, they had to drive back to the closest pumping station upstream, turn off the flow of fluid, wait for the line to empty out, and then coordinate with the closest ordnance or engineer detachment to make the repairs. Once fixed, someone had to return to the pump station again, turn the flow back on, and then inspect the repair to make sure the leak was fixed. It was a godsend when the MPS eventually fielded enough radios and telephone wire to link this system together.

road where that made sense, and it coordinated with OCOT to move the trucks to different stretches of good road where that was easier.

The 368th Engineer Regiment had arrived in the U.K. late in the Bolero deployment process, and it had little time to familiarize itself with the special equipment the mission required.¹⁰² Person's solution to this deficiency was to create a training program in mid-October within each of his four districts, where technical experts taught assigned service units how to operate and maintain their special equipment. This retraining program ran through early December and gave instruction on how to run a pump station, the intricacies associated with the different gauges of pipe, how to maintain pump house engines and the pipeline itself, and how to dispense fuel from the pipeline into a motorized or rail-based bulk tanker. MPS also completed a thorough inspection of the entire line, a process that took four months to complete. The inspection team discovered that the worst stretch of pipe by far was the section located in district one, the portion of the line that ran from Saint-Lô to Domfront (about ten miles east of Mortain). Construction of this first stretch of the major line had been handicapped by poorly trained engineers and the sense of urgency associated with extending the reach of the system at the height of the pursuit, which emphasized speed over quality.

At the same time that they were learning how to maintain and operate their equipment, the MPS was also working with COMZ to refine the division of labor for distributing the theater's bulk petroleum and standardized procedures for operating the pipeline network. In late October ETOUSA's engineers turned over decanting and dispensing duties to the Seine Base Section, who then passed them along to the Office of the Chief of Quartermasters at COMZ. The last minor crisis to hit MPS was a theater-wide shortage of pipeline repair parts that surfaced

¹⁰² Ruppenthal, Vol. 1, 319, 511.

in October and November. Eventually COMZ worked with ASF to have 21,000 items flown in from the United States to rebuild the theater stocks. COMZ learned from their experiences managing the theater-wide distribution of fuel between August and October, and when SOLOC was transferred to Lee's command in February 1945, Larkin's POL team was handed a thorough and succinct memo that explained exactly how they would run fuel distribution in order to comply with the ETOUSA standard.¹⁰³ In less than three pages the memo explained the specific duties of the three technical services involved, the responsibilities of any base section that had a pipeline in its territory, and a list of who was involved in the bulk fuel process on the COMZ staff. Harking back to Lord's comment from General Board 128, COMZ had finally mastered the theater-wide distribution of bulk POL and maintenance of a network of pipelines. MPS offered an excellent model for how to create a cross-service technical organization capable of removing a difficult mission off the hands of the COMZ staff that was resourced with the right people, authority, and training to get the job done, even if the measure was taken a few months later than would have been optimal.

Air Transport and Resupply -- A Missed Opportunity

Contemporaries and official historians attached to Allied headquarters tended to overstate the effectiveness of Allied utilization of air transport to sustain the pursuit across France in August and September 1944. They mentioned the fact that there were theater-wide growing pains in setting up a working system and a conflict between preparing for airborne operations and prioritizing aerial resupply and left it at that. But the reality was a lot worse than anyone

¹⁰³ COMZ HQ, "Revision of Continental ADSEC and Delta Base Section of POL Supply Procedure" 22 Feb 45. ETOUSA Office of the Chief of Engineers Report No. 13, POL, Appendix 11 and 15. RG 498, UD 578, Box 3923, ADM 547.

later admitted; SHAEF and ETOUSA failed to exploit a major advantage that might have generated a significant improvement to the Allied logistics situation that fall. The Allies failed to test and then refine the system for routine and emergency resupply by air during the months leading up to D-Day, delaying until mid-August a reconciliation between widespread expectations and reality. As a result of planners getting a late start on working out effective procedures, Allied cargo aircraft would only deliver about a fifth of their maximum potential as subsequently demonstrated throughout the month of April 1945, when 1,200 C47s delivered over 50,000 short tons of fuel and other critical supplies to combat formations.¹⁰⁴ In comparison, something between 8,500 and 16,000 short tons of supplies was moved by air in September 1944, and much less than this was moved in August.¹⁰⁵ The difference in performance between September 1944 and April 1945 was not the result of fielding more aircraft; SHAEF and ETOUSA finally figured out how to get the most out of the planes they had, and they decided to prioritize logistics over aerial envelopment. As with so many other critical processes, ETOUSA failed to establish, enforce, and practice the steps necessary to maximize an existing capability before trying to use them in an operational environment in France.

This problem was compounded by institutional resistance within the Army Air Force to dedicate “their” transport aircraft to supporting ground combat and service organizations and also by SHAEF’s reluctance to prioritize sustainment over airborne maneuver during the breakout. If COMZ thought they were getting poor support from USSTAF, the British felt even more let down. A senior officer serving in the War Office wrote Gale on 21 September to apologize for the recent poor support by the R.A.F. “I am afraid the use of bombers for the

¹⁰⁴ GB Raymond Moses, LTC Pierre Kleff, LTC Herbert Gagne, “Supply and Evacuation by Air” USFET General Board Report 26, 1945, 38. This performance finally approached the promised potential of 2,000 tons of supplies a day that logistics planners had first forecast back in June 1944.

¹⁰⁵ Ibid, 30. History of ETOUSA G4, RG 498, UD 578, Box 3931, ADM 553A, 64.

supply of 21 Army Group has been rather a fiasco....the trouble is more deep-rooted than he [Watson] said in his notes. We have never found the R.A.F. are really co-operative over this supply by air; even for transport aircraft we find U.S. Air Force easier to deal with.”¹⁰⁶ For weeks senior leaders at SHAEF swung back and forth between insisting upon a minimal level of aerial support to the advancing armies and allowing Brereton, the commander of the First Allied Airborne Army, to focus all his energies on preparing for mass airborne operations. Whenever he was boxed into a corner and forced to make a hard decision to resource either airborne operations or logistical support, Eisenhower would always cave in support of Brereton. By early September Bradley had become dismissive of the relative value of airborne drops in the midst of mobile operations, but Eisenhower and Montgomery did not share his convictions.

The massive Allied air transport fleet could have provided another means to deliver thousands of tons of supplies to rapidly advancing units in August and September, but it took too long for SHAEF to maximize its potential. Despite senior logisticians’ efforts to develop and distribute detailed instructions on how to make the process run, it was not until late August that SHAEF worked out the kinks and began to reap the benefits of their massive fleet of cargo aircraft. These efforts had been retarded by the tendency of both air forces to treat cargo aircraft as a service asset rather than a critical combined theater resource. This was compounded by the tension between two communities, the logisticians and airborne commanders, who had very different views on what C47s should be used to for. Leaders from the airborne community wanted to conduct large-scale aerial envelopment using the newly created 1st Allied Airborne Army; logisticians appreciated the flexibility offered by what amounted to flying deuce and a

¹⁰⁶ Unidentifiable Officer at War Office to Gale, 21 Sep 44. Gale Papers, Section I, Folder 3, Liddell Hart Center, King’s College. The author of the letter was on a first name basis with LTG Gale, but his signature is unrecognizable.

halves that could deliver 2,000 tons of supplies per trip right up to the front-lines. Because the senior logisticians at SHAEF failed to convince Eisenhower to prioritize the resupply mission over airborne drops, the Allies sacrificed what was probably the easiest solution to their fuel crisis during the last two weeks of the pursuit, while gaining no maneuver advantage to justify that choice.

SHAEF had a massive fleet of transport aircraft at its disposal during the breakout across France, so large a fleet that the command probably could have accomplished both mission types simultaneously. When the conflict over how to use the C47s first began to emerge, the command did not have a good feel for how many aircraft were available across the half-a-dozen commands under and aligned with the AEF or for how much tonnage they could deliver.¹⁰⁷ On 15 August 9th AF reported that they had 800 C47 aircraft that were not already committed to a higher priority mission -- SHAEF could rely on 600 of these being available for five consecutive days to move 5,000 tons of supplies; in addition to the 800 planes mentioned, another 480 transports were earmarked for Operation Transfigure and tied up with planning, training, and rehearsals.¹⁰⁸ Another 425 planes were on temporary loan to AFHQ to support Operation Dragoon.¹⁰⁹ This report triggered a two-week struggle to determine better planning figures and realistic tonnage goals for the SHAEF C47 fleet. By 5 September First Allied Airborne Army estimated that they could sustain a daily strength of 1,200 operational C47s, while the RAF's 47th Group could

¹⁰⁷ Bull and Smith initially struggled to understand the opportunity costs associated with aerial resupply and the impact on preparing for mass airborne operations. Eisenhower and Brereton tended to err on the side of training, preparations, and rehearsals, while Bull and Smith seemed more comfortable asking the Airborne Army to simultaneously manage both tasks. It took SHAEF and the AEF too long to look beyond IX Troop Carrier Command for other sources of C47s and air transport (reconfigured bombers).

¹⁰⁸ Cable, 1st AAA to SHAEF, 15 Aug 44. RG 331, Entry 30B (Airborne Section of the SHAEF G3), Box 148. Operation Transfigure was aimed at the Orleans-Paris gap and designed to cut off the German retreat in that direction.

¹⁰⁹ Ruppenthal, Vol I, 576.

provide another 170.¹¹⁰ Throughout September AEF and USSTAF figured out how to add 180 British heavy bombers and 150 C47s organic to the 8th and 9th AF service commands to the aerial resupply fleet supporting SHAEF. Another 100 C47s remained assigned to the service commands in 8th and 9th Air Forces focused on supporting their parent organizations. The routine training needed to maintain pilot proficiency across all of these units tied up 350 planes a day, leaving 1350 transports available for other missions. The staff at 9th AF was comfortable planning one sortie a day, with each trip delivering up to two and a half tons, but SHAEF believed that two sorties daily was possible under summer weather and light conditions.¹¹¹ If the weather allowed it, the AEF was capable of delivering 3,375 tons daily, as long as sufficient airfields and service troops were available to receive the supplies.

Actual performance in August, September, and October was woefully less effective than this theoretical capacity. Delivery figures must be treated with a measure of caution, but regardless which set of figures one uses, the Allied performance from August to November was disappointing. In the two weeks from 15 to 31 August CATOR claimed they delivered 2,800 long tons (or 3080 short tons) from the U.K. to forward areas, climbing to 8,509 long-tons for the month of September.¹¹² November marked the peak performance of aerial resupply in 1944 with 13,145 tons distributed to the armies, despite worsening weather; the increase is attributable to the lack of any conflicting projected airborne operations and their associated training

¹¹⁰ Cable, 1st AAA to SHAEF, 5 Sep 44. RG 331, Entry 30B (Airborne Section of the SHAEF G3), Box 148.

¹¹¹ Note, Bull to Smith, 24 Aug 44. RG 331, Entry 30B, Box 148. Assumptions about the carrying capacity of each plane had been validated by CATOR on 28 July, when 211 planes employed in routine and emergency resupply averaged 5,000 pounds each.

¹¹² History of ETOUSA G4, 64. RG 498, UD 578, Box 3931, ADM 553A. GB Report 26, which relied primarily on IX Troop Carrier and ADSEC reports, claims that 28,500 long tons were moved by air, and that the ADSEC distributed approximately 16,000 long tons to forward units in September. Total tonnage and passengers for October were almost identical to September. By November IX Troop Carrier Command, ADSEC, and ETOUSA G-4 tonnage delivery numbers had generally come into alignment. Even if one uses the numbers claimed by ADSEC rather than the more modest claims of CATOR, the Allies still averaged less than 1,000 tons a day in September.

requirements. What the Allies might have accomplished with aerial resupply in 1944 was demonstrated in April 1945, when OCOT took over coordination responsibilities from the SHAEF air staff and delivered 55,170 short tons of MT 80 east of the Rhine using a fleet of 1,200 C47s.¹¹³ Had the Allies been capable of employing the 1,350 aircraft reportedly available within 9th AF in August and September 1944 with anything approaching the efficiency achieved in April 1945, the campaign would have come to a more successful conclusion.

Early Challenges and Unrealistic Expectations

Why couldn't SHAEF manage to squeeze more performance out of their C47 fleet during the critical three months of the breakout, pursuit, and attempt to penetrate the Rhine? Gale had tried to ensure that systems were in place to govern the process before the start of Overlord, approving "Employment of Air Transport" on 28 April and "Movement of Store/Supplies by Air" a month later.¹¹⁴ Evidently instructions from SHAEF did not contribute to smoother planning and effective coordination at lower levels in the chain of command. In their official history written at the end of the war, ADSEC noted that it was extremely difficult to plan aerial resupply with 9th Air Force before D-Day. ADSEC formally requested information about the 9th AF emergency evacuation and resupply plan twice in May and June 1944, citing SHAEF published guidance to justify their requests for support.¹¹⁵ The ADSEC G4 tried to schedule a meeting for 6 and 7 June to discuss the issue, but neither meeting occurred. A tentative list of forward emergency fields was drawn up by the ADSEC and submitted to A-4 Plans Section at 9th Air Force, to no effect. The ADSEC summary of the issue ends by stating "...no detailed or

¹¹³ Ibid, 64. (History of ETOUSA G4).

¹¹⁴ Log of SHAEF decisions maintained by the SGS, RG 331, Entry 1, Box 7.

¹¹⁵ History of the ADSEC, paragraph 23. RG 407, Entry 427, Box 190.

coordinated plans appear to have been made for supply by air during the planning period. The Ninth Air Force 'Neptune' Plan was not received by ADSEC until 26 April 1944 and did not include a plan for supply by air."¹¹⁶

This behavior should not have created any surprises at SHAEF and ETOUSA. The authors of General Board Report 26 and Ruppenthal both emphasized that Army Air Force doctrine lacked any mention of routine large-scale aerial resupply support to ground forces.¹¹⁷ General Board Report 26 noted: "Field Service Regulations specify that the supply of ground units by air is an emergency expedient only and that routine use of troop carrier aircraft for supply purposes is costly and is not contemplated."¹¹⁸ But based on experience in the European theater by the summer of 1944, planners might have concluded that air superiority reduced the material cost of aerial resupply, and the challenges of mobile warfare combined with heavily damaged transportation infrastructure demanded the maximum exploitation of this resource. Other Army and Air Force doctrine contributed to confusion over this issue. *FM 100-15* stated that air transport was critical to the resupply and sustainment of air power, while having the secondary purpose of delivering aerial envelopment forces.¹¹⁹ No mention was made of how transport aircraft might help ground forces. *FM 100-20, Command and Employment of Air Power*, which was published in July 1943, also largely ignored aerial supply. The disparity between Air Force doctrine and the actions directed by SHAEF and the AEF staff must have caused confusion and consternation within the air units directed to support the Allied ground offensive in 1944.

¹¹⁶ Ibid, paragraph 23.

¹¹⁷ Ruppenthal, Vol I., 572. "Supply and Evacuation by Air", 1-2. Both documents cite *FM 31-40, Supply of Ground Units by Air*, 25 May 43.

¹¹⁸ "Supply and Evacuation by Air", 2.

¹¹⁹ *FM 100-15*, 75-76.

Attempts to utilize emergency air supply and evacuation during the first two months of Overlord exposed flaws in the system. The official postwar study noted: “In the early stages of operation of supply by air, the process underwent serious growing pains and considerable difficulties were involved.”¹²⁰ Requests for air resupply were not screened by higher headquarters to determine their priority, to see if alternative sources of supply existed, and to eliminate duplicates; coordination between the depot and sending and receiving airfields to arrange transportation was spotty; and emergencies often cleared themselves up before supplies were delivered, but the request was never cancelled. CATOR followed up on these reported deficiencies and attempted to correct gaps in their procedures and unit discipline in following them. Unsurprisingly, one of the hardest sources of friction to solve was the interaction between supporting service troops and the air units flying the missions. The AEAF examined all of the support missions conducted on 28 July and concluded that loading times remained a chronic problem, averaging almost five hours a mission, with a worst-case outlier of seven hours.¹²¹ ADSEC eventually worked out what they believed was the best system of control, in which the army regulating stations were responsible for picking an administrative airfield to which ADSEC would assign one truck battalion and two service companies to unload and distribute arriving supplies.¹²² The authors of “Resupply and Evacuation by Air” claimed that most of the bugs had been worked out of the system before the breakout, but the reality was that coordination between the various commands involved and service support during loading and unloading would severely limit Allied performance until November 1944.

¹²⁰ “Supply and Evacuation by Air”, 29.

¹²¹ Note, CATOR to SHAEF, 2 Aug 44. RG 331, Entry 30B, Box 148, Airborne Section, SHAEF G3.

¹²² Operational History of the ADSEC, ETOUSA, Aug 1945, 79. RG 407, Entry 427, Box 190.

Logisticians at SHAEF had realized early in the campaign in France that the large Allied air transport fleet offered the potential to provide a major advantage during mobile operations. On 17 June SHAEF directed the AEF to study the idea and to determine what steps would be necessary to expand delivery to 1,500 tons daily by D+30 and 3,000 tons by D+45.¹²³ The staff at the AEF believed that the key to reaching these expanded goals was to maintain three to six airfields on the continent dedicated solely to handling cargo aircraft and to allocate highly trained control teams to run them. On 11 July SHAEF endorsed a plan to set up six fields in Normandy to handle a total of 3,000 tons daily. Both SHAEF and the AEF failed to realize how intensely this system would have to be managed if the Allies hoped to realize its full potential. It was casually assumed that CATOR and COMZ could handle mission request and validation procedures, the coordination of ground transportation in the U.K. and France, and that the full and enthusiastic support of the air units involved would follow. It seemingly dawned on no one to establish a mechanism to determine the relative worth of competing demands for cargo planes. Gale and the G-4 section at AFHQ had figured out how to manage a complex distribution network and adjudicate conflicting priorities in North Africa by February 1943, but neither AEF nor COMZ had anyone trained in the system AFHQ employed so effectively. The Allies failed to exploit the potential offered by massed air transport in August and September because of a lack of foresight, training, and practice before the start of the campaign.

Despite the fact that no one had validated the procedures required to make it work, by early August ETOUSA and SHAEF began to plan as if large-scale aerial resupply could be counted on and made operational forecasts that were only reliable if air and service units held up their end of the bargain. At the 5 August CAO coordination meeting LTG Lee promised to

¹²³ Ruppenthal, Vol I., 574.

overcome 3rd Army supply difficulties with a combination of truck companies placed in direct support of Patton and the delivery of 1,000 tons of supplies a day by air.¹²⁴ As was generally the case, Lee was promising a service which he had no way of confirming was physically possible at the time, and he was not alone in his optimism about the level of support air transport might provide. COL Whipple, the head of logistics planning at SHAEF, based a number of feasibility assessments upon the assumption that the AEF would be able to move up to 2,000 tons by air daily. He explained to the group assembled for the CAO meeting on 12 August that in order to sustain two or three corps across the Seine the Allies would need to deliver a large quantity of fuel by aircraft until rail service was restored or a closer port opened up.¹²⁵ These projections ignored the fact that the Allies had not yet conducted large-scale aerial resupply while in France, only emergency deliveries with a few dozen aircraft, and that monthly deliveries in June and July amounted to only 2,850 and 4,400 tons respectively.¹²⁶ SHAEF leaders tended to gloss over the challenges and fix on the possibilities of air transport; in their defense they thought the AEF and COMZ had worked out all the details required to manage an air bridge that could move between 1,500 and 3,000 tons daily on a reoccurring basis. On 12 August SHAEF decided the day had come to exploit this capability and announced its intention to demand 1,000 tons of lift from the AEF in the near future.¹²⁷

¹²⁴ CAO Meeting Notes, 5 Aug 44. RG 331, Entry 34, Box 24.

¹²⁵ Ibid, 12 Aug 44. Leaders at SHAEF tended to assume that airplanes could provide 500 to 1,000 tons daily with little strain, or 2,000 tons with a concerted effort that constrained or even eliminated other maneuver options.

¹²⁶ "Resupply and Evacuation by Air", 29. These numbers were based upon reports from IX Troop Carrier Command consolidated and published in November 1944.

¹²⁷ Ruppenthal, Vol I., 575.

The Crisis

The first call for large-scale routine air supply came on 14 August when 12th Army Group asked CATOR to start daily delivery of 2,000 tons and requested that COMZ help with unloading and delivering the supplies once planes had landed at the designated administrative strips. The difference between what had been advertised by SHAEF and what could be achieved by AEAFF and COMZ became immediately apparent. Combined Airborne Forces Command, which soon became 1st Allied Airborne Army and was the higher headquarters for IX Troop Carrier Command, quickly burst everyone's bubble about what could realistically be expected in the near future. Delivering 1,000 tons per day under current conditions would be difficult if not impossible.¹²⁸ About 400 C47s had been detached to support Dragoon, 480 were tied down preparing for airborne operations, and around 600 were available, at least until the command entered a lock down period just before airborne operations. As an alternative, Combined Airborne Forces recommended that SHAEF look into the possibility of reconfiguring heavy bombers to deliver cargo. Eisenhower acknowledged the concerns voiced by his senior airborne leaders, but he directed them to prioritize aerial resupply until 25 August. Despite repeated warnings about the coming demand and endorsement by Eisenhower himself, large-scale aerial resupply did not get started until 19 August.¹²⁹

Based on the success of the pursuit across France and repeated delays to planned airborne operations, SHAEF continued to extend the window in which First Allied Airborne Army had to support routine supply requests. On 24 August MG Harold Bull, the SHAEF G3, questioned the

¹²⁸ Cable, Combined Airborne Forces Command to SHAEF, 15 Aug 44. RG 331, Entry 30B, SHAEF G3 Airborne Section, Box 148. The organization's response and math doesn't make much sense. The 600 planes that by their own admission were available should have been able to deliver between 1,000 and 1,500 tons a day.

¹²⁹ Ruppenthal, Vol I., 575-576.

aircraft availability numbers and training timeline Brereton had presented as part of his argument for pulling back his C47s. Bull pointed out to the SHAEF chief of staff that the Airborne Army was padding the number of planes necessary to support maneuver training and lowballing the total number of C47s available across the various air organizations. Bull also suggested that if the Airborne Army embraced the mission rather than finding excuses and if it started flying two sorties per aircraft when weather allowed, 1,000 tons could be delivered almost indefinitely, rising to 2,000 tons daily once the aircraft supporting Dragoon returned.¹³⁰ Bull was stubborn about this issue because at the same time he was pushing his boss to get tough with Brereton, Moses and Bradley were pushing him to keep the airlift going in order to sustain the pursuit. Eisenhower and Smith agreed with Bull and Moses, at least over the next few days. Lord told Brereton on 25 August that he would have to continue to allocate 200 aircraft to the sustainment mission indefinitely and then have to increase the number to 400 once the C47s on loan to NATOUSA returned from the Mediterranean, instructions reinforced by Smith the following day.¹³¹ SHAEF did compromise by shifting twelve heavy bombers over to the Airborne Army on 26 August to allow IX Carrier Command to experiment with reconfiguring them as transport aircraft.¹³²

Eisenhower's resolve lasted three days; on 28 August SHAEF informed all parties involved that aerial resupply would end the next day.¹³³ This announcement was followed by two weeks of indecision, a frantic searching for alternative airlift, and SHAEF playing the peacemaker rather than forcing the AEF or USSTAF to do its job and come up with workable

¹³⁰ Memo, Bull to Smith, 24 Aug 44, RG 33, Entry 30B, Box 148.

¹³¹ CAO Meeting Notes, 25 Aug 44, RG 331, Entry 34, Box 24. Order from SHAEF to 1st AAA, 25 Aug 44, RG 33, Entry 30B, Box 148. Cable Smith to Brereton, 26 Aug 44, Entry 30B, Box 148.

¹³² Cable, Smith to Brereton, 26 Aug 44, RG 331, Entry 30B, Box 148.

¹³³ Cable, SHAEF to subordinate commands, 28 Aug 44. Entry 30B, Box 148.

options. One is left with the impression that Eisenhower and his staff did not want to give anyone bad news, that Eisenhower tended to support the last commander to whom he had spoken, and that no one at SHAEF really knew how they wanted to handle tough decisions revolving around air support. The debate over air resupply at the end of August and the first half of September exposed how inexperienced and ineffective SHAEF was when it came to synchronizing a joint campaign, at least when it came to integrating what could be considered an untraditional use of one of the services.

When Eisenhower sided with Brereton and released his C47s to focus on future operations, SHAEF was forced to search frantically for an alternative source of air transport. Evidently dissatisfied with the AEF's progress to date, on 28 August Eisenhower asked Spaatz to transfer all the spare C47s from 8th and 9th Service Commands and 100 heavy bombers to Brereton to resource aerial resupply missions; USSTAF reported that no C47s were free but agreed to prepare bombers for this new assignment.¹³⁴ Two days later Bradley poured gas on the fire, reporting a supply crisis at the front that could only be alleviated by the commitment of more air support, triggering SHAEF to reengage USSTAF about the possibility of them providing at least 500 tons of lift daily. AEF replied that 200 B24s were already moving 200 tons daily, all of which was currently dedicated to the relief of Paris. The 200 odd C47s in 8th and 9th Service Commands were tied up moving fuel for 9th Air force. Not only was USSTAF blocking its C47s from supporting Bradley, but COMZ trucks assigned to 12th Army Group were tied down moving cargo and personnel for 9th Air Force. In response to repeated requests for help issued by SHAEF, leaders at USSTAF, 9th Air Force, and the Airborne Army managed to

¹³⁴ Cable, SHAEF to USSTAF, 28 Aug 44. Entry 30B, Box 148.

meet their own needs while ignoring the theater combined command, and for a week Eisenhower allowed it to happen.

But on 2 September the wind began to shift direction; indicators emerged that SHAEF was tired of all the excuses and disappointing performance of USSTAF. SHAEF received an extensive enquiry into air transport and resupply that day that had originated from the Army Air Force, which was passed along to the Airborne Army for response.¹³⁵ The timing and nature of the questions suggested that someone at SHAEF had complained to the AAF about the lack of support they were getting from their air arm.¹³⁶ The next day SHAEF issued instructions that half of all available C47s in USSTAF and the Airborne Army would be reallocated to resupply.¹³⁷ USSTAF dragged their feet in complying with these instructions; Lee felt compelled to write Crawford on 4 September asking SHAEF to engage the Airborne Army and force them to cooperate with his efforts to coordinate aerial resupply.¹³⁸ But the mood changed on 5 September when a new sense of cooperation could be detected in Breton and his staff's messages back to SHAEF. That day the Airborne Army recommended shifting two groups of C47s belonging to IX Troop Carrier Command from the U.K. to airfields around Paris to exploit better weather on the continent, and the command reported that they had 630 aircraft ready to

¹³⁵ Cable, AGWAR (Arnold) to SHAEF, 2 Sep 44. RG 331, Entry 30B, Box 148.

¹³⁶ The cable called for information on the number of troop carriers being used for resupply, the percentage of parachute vice air landing of supplies, the role of gliders, the tactical organization employed to control these operations, coordination measures between the air carrier and using agencies, new techniques that had been developed, any deficiencies in present equipment, if current types of a/c were completely adequate; if the troop carrier T/O and T/E were adequate, and finally, any recommendations to improve support and meet requirements of a similar nature of other theaters.

¹³⁷ Cable, SHAEF to various commands, 3 Sep 44. Entry 30B, Box 148. This decision corresponded to the cancellation the day before of the operation around Tournai, which was overrun by 1st Army before the airborne operation was ready.

¹³⁸ Cable, Lee to Crawford, 4 Sep 44. Entry 30B, Box 148.

support resupply missions immediately and that 1,200 C47s and 180 heavy bombers were projected to be available the next day.¹³⁹

SHAEF approved the recommendation to rebase C47s around Paris, and the transfer occurred on 7 September. SHAEF allocated 200 aircraft to 21st Army Group and 400 to 12th Army Group on 9 September and accelerated efforts to convert the B24s that had been flying civil affairs supplies into bulk POL carriers.¹⁴⁰ On 12 September SHAEF slightly modified their distribution guidance, allocating 40% of all lift to the 2nd Tactical Air Force, which supported 21st Army Group, and the remaining 60% to 12th Army Group and the COMZ, not including 9th Air Force, which would be supported by planes from its organic service command.¹⁴¹ A message sent two days earlier had reminded everyone that the good times would not last forever; the last day of this maximum support in the air was projected for 12 September, subsequently extended to 14 September. On 13 September Gale wrote 21st Army Group informing them that aerial resupply to support Market Garden would include converted heavy bombers and the next day SHAEF confirmed that most if not all C47 support would be suspended on 15 September and resume only after the completion of Market Garden.¹⁴² C47s continued to provide airlift to the armies during the operation, but large-scale aerial resupply did not resume until 29 September.

During the critical phase of the Allied pursuit, which saw an advance across the Seine and up to the German border, aerial resupply met the bare minimum level of performance that

¹³⁹ Cable, 1st AAA to SHAEF, 5 Sep 44. This was the first comprehensive roll up from the command since 15 August, and the change in tone is remarkable. Excuses to limit support to the logistics mission were replaced by great recommendations and willingness to get the job done.

¹⁴⁰ Cable, SHAEF to subordinate commands, 9 Sep 44. Entry 30B, Box 148.

¹⁴¹ Cable, SHAEF to subordinate commands, 12 Sep 44.

¹⁴² Cable, Gale to 21st AG and Cable, Eisenhower to Montgomery, 13 Sep 44. Cable, SHAEF to subordinate commands, 14 Sep 44. Entry 30B, Box 148.

was demanded by SHAEF and nothing more. Up until around 2 or 3 September USSTAF and the Airborne Army sought to provide 500 tons a day while preserving as many aircraft for other duties as possible. The 12th Army Group and the logisticians at SHAEF wanted more aerial support, but they could not convince Smith and Eisenhower to play hardball with Brereton to make this happen. After SHAEF issued clear orders to the air agencies on 3 September, support increased to an average of a thousand tons a day until the aircraft were released to execute Market Garden. Better results were possible. Throughout the month of April 1945 the Allies averaged aerial delivery of 1,680 short tons of cargo daily, but they could never reach the theoretical capacity of 3,000 tons that 1,200 aircraft should have been able to provide. Had IX Troop Carrier Command delivered 1,500, or even just 1,000, tons of cargo daily during the two weeks between 20 August and 2 September, it is conceivable that at the very least Patton would have reached the Rhine before culminating in the face of German reinforcements. The requirement to deliver 1,500 tons or more by D+35 came as no surprise to the various agencies involved, but the transition from small emergency deliveries to mass routine resupply proved to be more difficult than anyone had imagined. It did not help that air leaders tended to consider C47s a service rather than a joint asset and that they viewed airborne operations as more important than aerial resupply.

| | Week ending 26 Aug | 2 Sep | 9 Sep | 16 Sep |
|---------------------|--------------------|-------|-------|--------|
| 12 th AG | 4185 | 1877 | 3516 | 3221 |
| 21 st AG | 350 | 917 | 2787 | 3712 |
| Paris | 0 | 1676 | 975 | 0 |
| Total | 4535 | 4470 | 7278 | 6933 |
| Daily Average | 648 | 638 | 1040 | 990 |

Table 7.11: Weekly air cargo delivery tonnage 20 Aug to 16 Sep 44¹⁴³

When interviewed after the war, Air Chief Marshal Robb, Leigh-Mallory's successor at AEAF and later the chief of the SHAEF air staff, was extremely proud of the decision to create CATOR and just as proud of its accomplishments. He did not remember, or else chose not to address, the growing pains the organization experienced between June and October 1944.¹⁴⁴ In a similar interview, Air Chief Marshal Coningham thought two sorties a day was a reasonable goal for the C47 fleet, which could have realistically delivered 4,000 tons a day in August and September if the AEAF had done more to refine their procedures in the months prior.¹⁴⁵ Both leaders correctly identified the potential offered by the large fleet of C47s when paired with overwhelming Allied air superiority, but they conveniently forgot how unprepared the Allies were to exploit that capability. CATOR was a great innovation, but unfortunately for the Allies it did not function as advertised when it was first called to perform in early August, and it took too long to work out all the kinks after everyone got onboard with the concept. Coningham's vision for aerial resupply would have been more useful if he could have convinced Montgomery and his staff to stop planning airborne envelopments and rather insist that SHAEF use C47s to fuel the pursuit into western Germany.

¹⁴³ Ruppenthal, Vol I., 581. Ruppenthal bases his numbers on CATOR weekly reports and SHAEF G-4 files. It is unclear whether these figures are in long or short tons. Ruppenthal acknowledges moderate discrepancies among reported figures for all of the organizations involved.

¹⁴⁴ Notes from interview by Pogue with Air Chief Marshal Sir James M. Robb, 3 Feb 47. *The Supreme Command* file, AHEC.

¹⁴⁵ Notes from interview with Air Chief Marshal Coningham, 14 Feb 47, 3. *The Supreme Command* file, AHEC.

Postwar Assessment, Post-War Conclusions

Differences in opinion about the relative importance of air resupply continued to emerge after the war. The Army Air Forces tried to underplay the role of air transport during the campaign in France and Germany, barely mentioning the part played by C47s in the three reports they prepared for the USFET General Board. Conversely, the sustainment community recognized that cargo aircraft had permanently joined ships, trains, and trucks as a core element of the modern transportation and distribution network. Moses understood the fundamental conflict presented by a plane that could deliver either maneuver forces or supplies, and did not pretend to have a simple solution to that dilemma. The writing teams Moses supervised were committed to capturing, preserving, and passing on the hard lessons learned through almost a year of trial, error, and continual refinement.

Reading the three reports prepared by the USFET air staff -- General Board Reports 54, 55, and 56 -- which covered air power, the tactical air force, and control of tactical aircraft in the ETO, one would be surprised to learn that aerial resupply was a major mission for the AEAFF during the war. Aerial resupply is mentioned exactly once in these three documents. In "Air Power in the European Theater of Operations" the authors mention that IX Troop Carrier Command and two RAF groups were available for emergency resupply as a secondary mission under the direction of the Combined Air Transport Operations Room (CATOR), which worked for the SHAEF G-3.¹⁴⁶ Successes, failures, and the scope of the effort were not addressed, and the accomplishments of airborne operations in Neptune, Dragoon, and Market Garden are also

¹⁴⁶ BG Ralph Stearley, BG Robert M. Lee, and COL James Gehee, "Air Power in the European Theater of Operations", USFET General Board Report 56, 3. Technically CATOR answered to AEAFF and then the air staff. Only when demands exceeded resources was CATOR authorized to go to the SHAEF G3 for prioritization guidance. See General Board Report 26, page 3-5.

absent. It is as if the Army Air Force hoped that by ignoring the contributions to victory made through aerial resupply and air transportation of ground troops they might make the mission and force requirement disappear. In a service obsessed with air superiority and strategic bombing, delivering fuel and ammunition to armored columns was not a legacy they wanted to embrace.

Unfortunately for the Army Air Forces, General Board Report 26, “Supply and Evacuation by Air,” tackled the potential value and teething challenges associated with air transport in the European theater head-on. The document was prepared by BG Moses and the USFET G-4 section, and it showed just how difficult it had been to establish a working aerial resupply system in Europe. The report carefully plotted the evolution of command and control of air transport in the ETO from the spring of 1944 through the end of the war, capturing what the authors considered to be the key difficulties that had hampered effective execution. The report cited nine changes to the SHAEF chain of responsibility for air and the procedures associated with emergency and routine air supply, and publication of three supporting directives including two modifications to the 12th Army Group instructions during the course of the campaign in France and Germany. SHAEF hosted a major revision conference in late March 1945, and, in early April 1945, it made the last set of changes to their standing written directives covering aerial resupply.¹⁴⁷

The report reached strong conclusions about what had hampered effective aerial resupply during the pursuit, stalemate, and counteroffensive phases along the French-German border. Breakdowns in August and September, beyond the obvious one of getting the Airborne Army to release aircraft, were largely caused by units failing to fulfil their responsibilities in the established system and by poor coordination between air transportation units and COMZ truck

¹⁴⁷ “Supply and Evacuation by Air”, 22.

companies, both in the U.K. and France. Ruppenthal notes the cancellation of about half-a-dozen resupply flights on 22 August because CATOR could not get anyone to confirm that the administrative landing strips were ready to receive aircraft on the continent.¹⁴⁸ “Supply and Evacuation by Air” mentions widespread breakdowns in coordination between 5 and 6 September leaving C47 crews no option but to unload their own aircraft and leave the supplies along the runway.¹⁴⁹

After about three weeks of routine large-scale aerial resupply during pursuit operations, 12th Army proposed a series of modifications to clear up recurring sources of friction. The 9th Air Force would scout, select, and man its own forward administrative airfields; 12th AG would inform SHAEF and COMZ which airfields would be used to handle what tonnage during a period of time; CATOR and COMZ would control loading in the U.K., and ADSEC would arrange for unloading and forward movement in France. SHAEF approved these new responsibilities in a directive published on 15 September 1944.¹⁵⁰ As air resupply became just another means of transportation available within the theater, 12th Army Group tried to transition management of the system to the COMZ.¹⁵¹ Because of FUSAG’s deep involvement in the process since first landing in France, SHAEF, CATOR, and the COMZ seemed reluctant to step in and take charge when that started to make sense in early August.

In the conclusion and recommendation chapter of their report, Moses and his coauthors tried to ensure aerial resupply and evacuation remained as a full-fledged capability within the U.S. Army. The team speculated that all future operations would call for aerial resupply and evacuation by dedicated air cargo units. Sharing transports between the resupply and troop

¹⁴⁸ Ruppenthal, Vol I., 576.

¹⁴⁹ “Supply and Evacuation by Air”, 15.

¹⁵⁰ “Supply and Evacuation by Air”, 16-17.

¹⁵¹ Ibid, 18.

delivery missions was problematic; if there were not enough C47s to adequately equip two distinct organizations, then the commander would be forced to make tough decisions well in advance and then stick to those priorities. It was essential that everyone in theater operate from one well-understood SOP that worked under realistic combat conditions. Centralized control by a theater regulating agency (CATOR) integrated with the theater transportation section was validated as the best organizational approach. Administrative airfields were just as important as forward tactical airfields, and the Army needed to retain the capability to repair and operate these facilities on short notice. In the end the report provided seven pages of very detailed conclusions, observations, and recommendations covering evacuation and supply by air and general theater organization and procedures. Moses had personally witnessed the initial misuse of a magnificent asset, worked hard to fine-tune the coordination of, and exploitation of, that resource, and did not want future generations to have to live through his pain again.

British Versus US Sustainment Performance and Friction with COMZ

Surprisingly little has been written by American historians about the sustainment challenges faced by Montgomery and the 21st Army Group during the six weeks from mid-August to the end of September. In general, U.S. leaders at the time dismissed the relatively smooth functioning of British logistics, pointing to the smaller size of their forces, the proximity and availability of a handful of Channel ports, and the shorter length of the LOC in comparison with that of 3rd Army.¹⁵² By early October many aspects of this argument were correct, but at the beginning of September both armies faced very similar challenges. At the end of August, the

¹⁵² This was perhaps driven by the 13 Oct 44 message from Eisenhower to Montgomery, which pointed out the superior supply situation of the British relative to 12th AG. See Pogue, 297. 21st AG was on solid footing and faced a simpler challenge than the Americans by mid-October, but this had not been the case at the beginning of September.

Commonwealth had about 870,000 men on the continent compared with 1.1 million for the U.S.¹⁵³ Only a small fraction of Allied forces were in contact with the enemy and advancing towards Germany; 12th Army Group probably had two to four more divisions than 21st Army Group if one includes flank guards.¹⁵⁴ British supply lines were shorter at the end of August and then again in early October when compared with the southernmost corps of 1st Army and all of 3rd Army. But throughout September most of 2nd Army was at least 375 miles away from the RMA back at Bayeux, comparable with 1st Army and only a bit better off than 3rd Army.¹⁵⁵ The driving distance from Cherbourg to Metz, Nancy, or Aachen is about 450 miles. During the critical ten days when the Allied pursuit came to a halt, both Army Groups faced almost identical distribution challenges from their base area to the three army-level forward supply centers.

| | 16 Sep | |
|--------------------------|---|------------------------------|
| | Corps/Divisions in Contact | Distance from Base |
| 2 nd British | <i>VIII, XII, XXX (3A/5I: 8 - 10 total div)</i> | 375 miles (Brussels) |
| 1 st Canadian | II C, I (2A/4I) (east of Seine by 1 Sep) | Various, but much shorter |
| 1 st U.S. | V (3), VII (3) | 400 miles (Liège) |
| 3 rd U.S. | XII (3), XX (3) <i>XIX had dropped out</i> | 450 m (Metz) / 470 m (Nancy) |
| 9 th U.S. | <i>VIII (3)(Brittany)</i> | |
| 1 st AAA | 18 & Br Abn (3+) | 450 m (Eindhoven) |

Table 7.12: Comparative strength and distance from base area, Allied ground armies¹⁵⁶

¹⁵³ Pogue, 542-543.

¹⁵⁴ VIII Corps was generally stationary near Brest and supplied through means that could not have helped forces pursuing the Germany Army. Three newly arrived U.S. divisions were grounded in Normandy, and the Airborne Army was organizing in the UK. The Free French Army was not yet the resource drain on the COMZ that it would become in the coming months. XV Corps was largely stationary protecting Patton's southern flank.

¹⁵⁵ LTC J.A.H. Carter and Major D.N. Kann, *The Second World War 1939-1945, Army, Maintenance in the Field, Volume II: 1943-1945* (London: The War Office), 302. Copy accessed at the Imperial War Museum, London. The authors confirmed that the British line of communication in the first week of September was 380 miles from RMA to around Brussels.

¹⁵⁶ Compiled from Pogue, Blumenson, *Lorraine*, MacDonald (*Siegfried*), and Ellis Vol. 1 and 2. Allied divisional strength in early September included 20 US and 17 Commonwealth formations, plus one French armored division. These numbers exclude 6th AG and its associated U.S. and French divisions. See Pogue, 248.

Different Measures, Different Outcomes

Did 21st Army Group manage to overcome their distribution dilemma and avoid the shortages that plagued the Americans, or did they just do a better job of constructing a postwar narrative? Or can one argue that the British were successful only because critical resources were diverted from 12th Army Group to sustain their advance in mid-September? If the British were successful, on a level playing field where the Americans failed, what might explain the two different outcomes? In general, 21st Army Group and its L of C command did not do anything radically different than COMZ or 12th Army Group; they just did it a bit more efficiently. British logistical doctrine and training, combined with a two-year head-start on the Americans in the realm of practical experience, resulted in a more capable organization. The British had large, very capable truck companies with three varieties of vehicles, and compared to the U.S. ratio of trucks to combat troops, more trucks per combat soldier.¹⁵⁷ It could also be argued that the British Army had internalized a culture of austerity and was better able to ruthlessly prioritize and control what was delivered to the front lines, which was shown in the deliberate decision to cut back the tonnage delivered to the continent from 16,000 to between 6,000 and 7,000 tons during the first two weeks of September in order to free up truck companies to support the advance.¹⁵⁸ British logisticians had internalized a host of lessons from the desert that impacted their approach to logistics in France, and 21st AG was willing to ask for and accept help from Gale and his key technical advisors at SHAEF. Finally, 21st AG produced at least equal results

¹⁵⁷ The standard vehicles had a capacity of 3, 6, or 10-tons. Companies had a very flexible structure, with anywhere between two and five platoons, which might be uniformly equipped with one type of trucks or a mixture. In mid-September 21st AG controlled 140 companies while the Americans had about double that number, but in the aggregate a GT company had about twice the number of trucks. Excluding 7th Army, 12th AG was already larger than 21st AG by this point.

¹⁵⁸ COL H.W. Wilson, *The Second World War 1939-1945 Army Administrative Planning* (London: The War Office, 1952), 162, 62, 157. Carter and Kann, 285-286, 300, 308. Both volumes consulted at the Imperial War Museum, London.

while getting almost none of the Allied rail capacity and very little of the air transport capacity until around 10 September.

Despite a number of advantages that helped them prevent logistical challenges from dictating the pace of operations, the British ran out of momentum between 5 and 10 September, but this was for reasons different from those that stopped the U.S. Army. Montgomery voluntarily halted along the Albert Canal in order to build up supplies and prepare his forces for Market Garden, an operation approved on 10 September and initiated a week later. Patton and Hodges limped to the Moselle and Belgian-German border between 5 and 11 September with only a fraction of their available combat strength, having lost a number of days of potential progress waiting for the delivery of fuel. Unlike the U.S. Army, 21st Army had recovered its logistical footing by early October while simultaneously closing up combat formations left behind during the pursuit and amassing a stockpile of artillery ammunition for the next major operation. The recovery of the British army was simplified with the reduction of the length of the line of communications afforded by the opening of Dieppe and Ostend, but this advantage did not play a meaningful role until early October.

In most cases, both militaries used similar steps to prepare for and then extend the reach of their advance across France. Both grounded some portions of their combat forces to help the others advance. Both released trucks from replacement depots and found additional drivers to man them. More truck companies were rushed to the continent, air transport was pressed into service to deliver “routine” mass supply, and specialized vehicles were rerolled to haul material to the front. New command and coordination organizations were established and positioned to synchronize the requisition and delivery system. The U.K. and U.S. commands did a remarkable job restoring the infrastructure behind the advancing armies and worked to get trains back in

service and carrying a major portion of the supply burden. The methods and techniques employed by the two nations to accelerate the delivery of supplies were almost identical.

But the British took a number of mitigating steps earlier than the Americans, and even a few the U.S. never tried. An overall manpower crunch hit the British military before Overlord even began, driving them to disband the Marine and three infantry divisions in order to properly resource the line of communications command for 21st Army Group.¹⁵⁹ It would be hard to imagine the United States standing down four divisions to generate 100,000 men for the ASF, but the U.K. War Office understood the criticality of having the correct proportion of service to combat troops. Even these drastic measures were not enough to meet all service troop requirements, and the British were forced to ask the U.S. for help manning their assault landing craft and for direct support from 1st Army engineer units. More men were discharged from the Army to help build, emplace, and operate the Mulberry, and when this produced insufficient manpower, Irish labor was hired to cover the shortfall. The United Kingdom was forced to make hard choices to generate enough support forces for Overlord, but they did what they believed was necessary. The U.S. never had to make such tough decisions concerning the allocation of manpower, but ferocious political battles did occur among Lee's SOS, ETOUSA, and the War Department over the service troop basis for the invasion of France.

The British also had an advantage in that almost half of the truck companies supporting 21st AG by early August consisted of 6- or 10-ton heavy trucks, the balance consisting of 3-ton lorries. Over 5,000 of these heavy trucks were available to the British Army by 1 June, and the

¹⁵⁹ Interview by Pogue of LTG Fredrick Morgan, 8 Feb 47. *The Supreme Command* background and notes files, AHEC.

21st AG motor transport estimate was based on having 1,064 6-ton and 728 ten-ton trucks.¹⁶⁰ In addition, British companies were generally larger than their American counterparts, with anywhere from two to five platoons of 30 trucks each, or 60 to 150 versus 48 vehicles assigned, and two men were assigned to each vehicle in the standard tables of organization.¹⁶¹ SHAEF estimated that by D+90 21st AG would have 426 3-ton platoon equivalents ashore with a lift capacity of 18,000 tons under normal loads, or 36,000 tons under emergency conditions.¹⁶² About half of this truck capacity would be tied down by port clearance, static operations, support to forward units, and ship-to-shore ferry runs (driving DUKWs rather than lorries), but this still left about 9,000 tons of long-haul capacity with a one-way range of at least 200 miles every twenty four hours.¹⁶³

One of the most radical adjustments made by the British that was designed to extend their operational reach was the decision to cut back shipments into Normandy from 16,000 to about 7,000 tons per day during the first two weeks of September, releasing half of those trucks to support the line of communications. Both armies tried to mitigate the scope of the logistics challenge by leaving behind non-essential units and prioritizing fuel and transportation for the advanced guard, but the British did so proactively, while the U.S. tended to do so only after confronted by a setback. The impact of other advantages benefiting the British but not available

¹⁶⁰ There is a SHAEF G-4 progress report from 22 April that implies 21st AG would have, or might have access to, 3,200 3-ton and 1770 10-ton trucks by 1 June. A SHAEF G-4 staff study of the anticipated 21st AG motor transport situation by D+90 shows authorizations for only 1064 medium and 728 heavy trucks.

¹⁶¹ COL D.W. Boileau, *The Second World War 1939-1945, Army, Supplies and Transport, Volume II* (London: The War Office, 1954), tables of organization appendix. Consulted at the Imperial War Museum, London. Each platoon had 30 trucks and 50 enlisted men. Gale confirmed that a British GT company had the same carrying capacity as 2.5 U.S. companies – see his diary entry for 2 Sep 44, Gale Papers, Section II, Entries 14-25, Liddell Hart Center, King's College.

¹⁶² Based upon an 80% ORR and 3 ton hauling capacity per truck. By attaching a trailer and authorizing overloading, capacity increased to 6 tons. The chief logistics planner at 21st AG confirmed that 140 GT companies were under their control in mid-September.

¹⁶³ As we will see below, the British took creative measures to free up GT companies from their DUKW and port clearance missions, releasing about half of those platoons to support the pursuit in August and September.

to 12th AG and ETOUSA are harder to gauge, but there seemed to be a closer and more positive relationship between the logisticians and the maneuver commanders, and British systems seemed to function under the most trying conditions while American procedures collapsed. The 21st AG had mastered the techniques required to sustain mobile operations, transitioning very smoothly from the static conditions around Caen to the exploitation in the direction of Falaise and finally to the headlong chase across northern France. The British faced the same communications and transportation difficulties bedeviling the U.S., but their relationships and procedures could handle the friction, while the American system sputtered in late August and September and collapsed in early October. The balance of this section will examine the British system in detail and explain how and why that happened.

Logistics During the Lodgment Phase

The U.S. and U.K. sustainment experiences during the static portion of the campaign in Normandy were very similar. Like the U.S. 1st Army, the British 2nd Army built the support plan and controlled all units involved in the logistics mission during the first fourteen to seventeen days of the campaign, which included forecasting and issuing all common use items required by the RAF and RN ashore.¹⁶⁴ All common use supplies, petrol, oil and lubricants, ammunition, equipment, labor, and services for the RAF would be provided by RA service forces; unique equipment, aircraft, and spares would be delivered by air transport.¹⁶⁵ Planners at 21st AG assumed rail would be of little practical assistance until D+90, meaning that motor transport

¹⁶⁴ “The Administrative History of the Operations of 21st AG on the Continent of Europe, 6 Jun 44 – 8 May 45,” (British Army of the Rhine, November 1945), 5. Copy found in RG 407, Entry 427.

¹⁶⁵ Ibid, 6. The British military had decided that the RAF did not require its own ground-based service force in the tactical combat area.

would have to suffice to reach the Seine and perhaps the Somme. Headquarters, 11 L of C Area command, with HQ 4 L of C sub area and HQ 10 Garrison under its control, would work directly for 2nd Army until HQ L of C and the forward command post of 21st AG arrived between D+17 and D+20.¹⁶⁶ A small advanced section of the transportation section from 21st AG headquarters landed with 2nd Army and supported HQ 11th L of C Area and then HQ L of C until the 21st AG main command post arrived on the continent.¹⁶⁷ This allowed the section to supervise the expansion of the distribution network and exert tight control over all means of transportation from the first days of the campaign.

One area where the British system was projected to operate in a very different manner than the U.S. system was in the provision of repair parts, or spares, and replacement vehicles. It also helps illustrate how technical issues that seemed minor could have a major impact on the success or failure of a complex system. Each brigade group landed in Normandy with a small reserve of repair parts that had been selected based on historical consumption figures compiled from North Africa and Italy.¹⁶⁸ These packs were designed to last for 30 days, but for Normandy the British counted on them for only fifteen. After D+26 the British system would transition to bundles of repair parts, one configured for an armored and a second for an infantry division, each with all the spares necessary to support battalion and regimental repair shops. These pre-built push packages were called “beach maintenance packs,” and 2nd Army wanted a two-week reserve for every division ashore by D+41.¹⁶⁹ Units would surrender unserviceable vehicles for a replacement on the spot during the first 40 days of operations; battalion and regimental shops would then make minor repairs and return the vehicles to the reissue lot, or they would turn

¹⁶⁶ Ibid, 5.

¹⁶⁷ Ibid, 14.

¹⁶⁸ Ibid, 18.

¹⁶⁹ Ibid, 6. These provided parts for battalion and regimental repair shops.

seriously damaged vehicles over to higher-echelon Royal Electrical and Mechanical Engineer (REME) units for more extensive work. After D+100, standard maintenance packs, designed to support a corps, would become the basic unit of supply for repair parts. All of these standard brigade, division, and corps push-packages depended on the quality of historical consumption data from years of combat in a wide variety of operating environments, supplemented by a speedy request-and-delivery mechanism to cover outliers. A lack of complaints is not concrete proof, but 21st AG seemed to avoid the wholesale breakdown of their truck fleet that plagued the Americans in October.

The development of the British lodgment area and its associated transportation networks proceeded as planned leading up to the breakthrough at the end of July. The Rear Maintenance Area (RMA) was established around Bayeux by 2nd British Army in accordance with the first key plan developed before the campaign. A few small trains linked various ports with the general area of Bayeux by 4 July, and a few days later air transport began making special deliveries into the lodgment.¹⁷⁰ In the first month ashore the British landed only 75% of their tonnage goal, but only ammunition shortages had any effect on the campaign. Field artillery requirements were underestimated while tanks and anti-aircraft artillery were over-resourced; the easy fix was a slight modification of the delivery programs and some improvements in downloading and distribution techniques. Because of the effective repair and replacement system that had established during these early weeks, British vehicle readiness rates in operational units remained high despite significant losses to combat.¹⁷¹ Bulk POL was unloaded

¹⁷⁰ Ibid, 11.

¹⁷¹ Ibid, 12.

at Port en Bessin and the minor pipeline connected the port to Blary, Isigny, and Coulombs before the end of July, making fuel distribution an easy task.¹⁷²

The British tried to ensure that logistical command and control arrangements were set prior to the breakout and pursuit, activating a boundary behind 2nd Army on 23 July, and moving the 21st AG Rear HQ to Vaucelles (just west of Bayeux) on 11 August. As the Allied advance to the east picked up steam in mid-August, the War Office offered to take over responsibility for the RMA and 21st AG rear area and to supervise the recovery of excess material from France, either to reintroduce on the continent through a Channel port or to put back in the general reserve in the U.K. Gale handled the request, passed along to him by 21st AG, by ignoring it for two weeks and then declining the offer.¹⁷³ Gale was also worried when Montgomery and Bradley resisted the activation of a theater communications zone; in the case of 21st Army Group Gale was able to get his way by 23 July, but he had no such luck with the Americans. After running the idea past Gale on 6 July, Lord recommended the activation of an ADSEC/COMZ area to Eisenhower on 13 July. Bradley was against this idea, and, in the interest of showing unity, Lee supported his position, while Gale, Crawford, and Lord thought it was well past time to turn the rear area over to the experts.¹⁷⁴ On 20 July Gale wrote in his diary “It is always difficult to get an L of C going when an Army has been tinkering about with it before the arrival of the expert L of C staff and in this case it is doubly difficult as the area is so limited and the staff are falling over each other.”¹⁷⁵ Bradley’s foot dragging would cause Plank

¹⁷² Ibid, 14.

¹⁷³ Gale to War Office, 16, 29 Aug 44, D.O. Letters GEN Gale, Gale Papers, Section I, Folder 3, File No. 2, Liddell Hart Center, King’s College. Gale believed that War Office management of the rear area in France during the first two years of World War One had been a major mistake that he would not allow to happen again.

¹⁷⁴ Official War Diary, 6, 13 Jul 33, Gale Papers, Section II, Folders 14-25, Liddell Hart Center, King’s College.

¹⁷⁵ Ibid, 20 Jul 44.

and then Lee no end of trouble, but 21st Army Group seemed to have avoided passing along a mess to their L of C command.

The Pursuit Across France and Belgium

Senior leaders in 21st AG had quickly realized that the U.S. breakthrough at Saint-Lô would likely dislodge the entire German line, and they reacted appropriately. Like the Americans, they accelerated the deployment of truck units already in the pipeline, receiving six new GT companies by 1 August. The logistics planner at 21st Army Group, COL Oliver Poole, published a series of evolving estimates in mid-August that painted a picture of how the next phase of the campaign might unfold, anticipating a rapid bounce across the Seine and deep into Belgium. Poole recommended that Graham resist the impulse to establish any intermediate depots, waiting instead until a few Channel ports were open to then establish a new RMA around Rotterdam-Brussels.¹⁷⁶ To help solve the transportation dilemma that this concept created, the logistics staff at 21st AG, working with their counterparts at the War Office, decided to cut the daily flow of supplies across Mulberry B and into the Bayeux area by a little more than half starting in early September.¹⁷⁷ Fourteen days of reserves were already ashore by then, and the

¹⁷⁶ COL Oliver Poole for MG Graham, "Operations Across the Seine" 17 Aug 44, WO 171/146 Q Plans, National Archives, Kew, U.K. Poole for Graham, "Admin Appreciation" 21 Aug 44, WO 205/671 Overlord Maintenance Appreciation G (Plans) 21 AG, National Archives, Kew. Poole recommended the British use coastal shipping into Dieppe and then Le Havre and other Channel Ports until Rotterdam was open. Rail might help a bit, but motor transport would have to cover most of the load between the RMA and Brussels. Poole went on to say that if all the GT companies were massed to work on the LoC, the advance could be adequately supported until closer ports came on line.

¹⁷⁷ Cartier and Kann, 300. Official War Diary Entry, 1 Sep 44, WO 171/720 Q Branch, L of C, 21st AG, National Archives, Kew. WO 171/148, War Diary for 21st AG Q (Movement) July and August 1944, National Archives, Kew. The British had been slowly cutting back imports to the continent since late July, from a high of 19,000 tons daily to an average of 13,000 during the period 19 to 28 August. Cartier and Kann state that the decision to cut imports in half was made on 30 August and took a few days to take effect. After 2 September deliveries dropped dramatically, with 4,662 tons unloaded on 3 September and 1,525 tons the next day. The average for the next five days was 3,750 tons a day until deliveries began to climb again on 9 September. Mulberry B never handled more than 10,000 tons a day after 1 September, as the British diverted ships to Dieppe and Ostend starting in mid-

command decided it was comfortable living hand-to-mouth for the next few weeks. Cutting imports freed eight DUKW companies that could be reequipped as GT units, allowing about half of the port discharge and static platoons to be added to the line of communications pool, the equivalent of adding twenty 3-ton truck companies to the army group.¹⁷⁸

In the end the decision to cut imports through Bayeux led to the British living off reserve stocks for about two weeks.¹⁷⁹ The first British cargo ships docked at Dieppe on 17 September, and the port was handling 6,000 tons a day by 20 September, while Ostend was routinely receiving between 6,000-7,000 tons by 28 September. The Americans never voluntarily cut back imports, continuing to pour supplies ashore at Cherbourg from early August to the end of November. This decision resulted in a massive backlog of unloaded ships and tied down a lot of resources in the Normandy Base Section that might have been employed on the Red Ball or used to reinforce the ADSEC and help with final delivery to the armies. It also created a supply dump around Cherbourg of such massive proportions that the scale overwhelmed COMZ's ability to catalogue and store it for easy recovery. It became so difficult to find some items in NBS that it was easier to download specific requests from a ship, where you could trust the manifest, than to sort through the mountains of boxes at the depots scattered across Normandy. In hindsight, most British analysts realized how beneficial the self-imposed restriction on imports was in simplifying 21st Army Group's sustainment and transportation challenge.

September. By 1 September the 21st AG daily requirement to sustain operations around Brussels was 15,000 tons per day.

¹⁷⁸ Administrative History of the Operations of 21st AG, 47. SHAEF G-4 study of RASC transport requirements of 21st AG by D+90, 5 Jun 44, reprinted as Appendix E and F in Wilson's *Administrative Planning*.

¹⁷⁹ Tonnage reaching 2nd Army in early September hovered between 5,500 and 6,500 tons daily, much better than the situation faced by 1st and 3rd Armies to the south. Daily tonnage deliveries by means of transportation, WO 171/231 HQ 2nd Army Rear Q Branch 1944 (Oct-Nov), National Archives, Kew.

Like the Americans, the British began to run out of options to keep things moving in the first week of September. By late August GT truck companies were traveling 200 miles from the RMA to army roadheads; the last 50 miles to the FMAs and combat divisions were covered by eight 3-ton company equivalents working for 1st Canadian Army and thirty-nine companies (combined this accounted for about 34% of the total British truck fleet) supporting 2nd Army.¹⁸⁰ All the remaining resources, especially the 6- and 10-ton platoons, were centrally pooled and controlled by the transportation section of the army group staff. The entire pool of spare 3-ton trucks, numbering 1,700 vehicles, were released and pushed to operating companies on 1 September to increase the size of the operational fleet.¹⁸¹ Like their American counterparts, the British found that moving information across the rear area was as difficult as overcoming transportation shortages. It did not help matters when 21st AG was directed to assign three truck companies, to include one of the 6-ton variety, to the COMZ for what would eventually become a month, from 6 August to 4 September.¹⁸² The British were also directed to provide a DUKW company for six weeks at Utah beach around the same time.¹⁸³ The 2nd Army lunge from the Somme to beyond the Albert Canal was only possible because Montgomery decided to ground one corps and concentrate on supplying the other two.¹⁸⁴

The British had a backup plan, if required, to establish an advanced base in the Dieppe-Rouen-Le Havre area, but the rapid rate of advance combined with sufficient lift capacity drove

¹⁸⁰ Administrative History of the Operations of 21st AG, 39.

¹⁸¹ Ibid, 34.

¹⁸² Ibid, 46. The original directive was for two companies for eight days. 21st AG records indicate four companies were assigned to the COMZ (one 10-, two 6-, and one 3-ton companies) that were supposed to be return between 2 and 4 September. See "Employment of Tpt and Labour" 1 Sep 44 HQ L of C, BLA, WO 171/720 Q Branch, L of C, 21 AG, National Archives, Kew.

¹⁸³ DUKW and trucks were operated by the same drivers in both armies. If not manning DUKWs at Utah, the British could have moved these personnel over to drive lorries between Caen and the front.

¹⁸⁴ Administrative History of the Operations of 21st AG, 34.

the British to hold off until one of the major Dutch ports could be opened.¹⁸⁵ Like the Americans, the British thought themselves unbalanced by a logistical crisis from 5 to 17 September that lingered at differing levels of intensity depending upon who one asked.¹⁸⁶ By this stage of the campaign, the British trucks were covering between 350 to 400 miles between the RMA at Bayeux to stock 2nd Army dumps along the Dutch-Belgian border.¹⁸⁷ By mid-September 21st Army Group needed 4,000 tons of fuel and 11,700 tons of other supplies to meet its daily requirements; on top of this, British officials wanted an additional 8,000 tons delivered daily to establish reserves around Brussels.¹⁸⁸ The 1st Canadian Army estimated it would eventually need 29,000 tons of artillery ammunition for Operation Infatuate (to clear the approaches to Antwerp), and they wanted 8,000 on hand before starting combat.¹⁸⁹ Port intake limitations and transportation shortages restricted daily deliveries to between 14,500 and 16,200 tons, and Montgomery adjusted accordingly.

The British realized they were entering a decisive stage of the campaign on 4 September and began to take steps to try to sustain the momentum of the advance. Montgomery was acutely aware of the strain on his sustainment system, which triggered his string of cables to Eisenhower

¹⁸⁵ Ibid, 34.

¹⁸⁶ Ibid, 35. Gale's Diary from 31 August to 23 September. Gale believed SHAEF and 21st Army Group had turned the corner by 23 September, but 21st AG remained convinced that they were not getting sufficient deliveries up to the front until around 7 October. In the end, 21st Army Group "solved" their internal concerns about supply by cancelling 2nd Army's attack towards Köln in order to focus on clearing the approaches to Antwerp. See WO 171/146 Q Plans entries from 24 September to 6 October 1944.

¹⁸⁷ Admittedly this was for only a portion of 21st AG, but the forward most three corps were generally as far away from their supply base in Normandy as their U.S. equivalents in 1st and 3rd Army, a fact many American historians tend to gloss over.

¹⁸⁸ Administrative History of the Operations of 21st AG, 48. War Diary for 21 AG Q (Movements), entries from August and September, WO 171/148, National Archives, Kew. The best detailed treatment of 21st Army Group requirements were presented in the Administrative Appreciation sent from BG Feilden (the DQMG) to MG Graham on 30 Sep 44, WO 171/146 Q Plans. By 30 September British requirements had climbed to 15,700 tons to meet daily consumption and 8,000 tons for reserve stocks at the front; the two armies accounted for 13,700 of the daily maintenance requirement.

¹⁸⁹ Poole captured the Canadian ammunition requirements after a meeting with Brigadier Walford, the army's chief of logistics, conducted on 19 Sep 44. See WO 171/146 Q Plans.

during the first third of September. On 7 September he laid out a gloomy forecast for Eisenhower, stating: “My maintenance is stretched to the limit”; he pointed out problems with rail, air, and motorized transportation deliveries and the length of his line of communications.¹⁹⁰ Montgomery explained in his cable that 21st AG would only be capable of reaching the Ruhr once a major Channel port was open, the army group had been reinforced by 2,500 trucks (about 25 British companies or a 20% increase to his current strength), and he could count on 1,000 tons daily arriving by air. He suspected that SHAEF could only resource perhaps one or two armies so extravagantly and obviously felt that the British 2nd Army had the mettle and terrain to constitute the main effort. Without the use of a nearby port these requirements would be even larger.

Despite an array of obstacles, the logisticians of 21st AG did everything within their power to keep the offensive going. Step one was to address problems with long-range communications that were hindering control of the transportation network. HQ 12th L of C relieved 11th L of C on 3 September, allowing the more experienced command to displace to Amiens and closely monitor the northern portion of the rear area. On 9 September unbroken rail service between the RMA and British ferry sites on the west side of the Seine was established, which accelerated deliveries, but it also made detailed coordination among the trains, trucks, ferries, and service troops working the chain more critical than ever. The solution was to create a temporary organization, TRANSCO, that was pulled from 21st AG headquarters to work alongside 11th L of C Area at Amiens.¹⁹¹ Together the two organizations would closely manage

¹⁹⁰ Cable Montgomery to Eisenhower (M-175), 7 Sep 44, copy in Gale Papers I/5, Cables Received and Dispatched, Liddell Hart Center, King’s College. Montgomery was following up to an early message he sent to Eisenhower on 4 September. Pogue, 253-254, 291. Graham was sending the same message to Gale from 31 August through 10 September, see Gale’s official war diary.

¹⁹¹ Admin History of 21 AG, 36.

all road and rail traffic and synchronize cross-loading activities associated with getting material over the Seine.¹⁹² On 22 September the British finished their first bridge over the lower Seine speeding up turnaround times for trains and simplifying the command and control process. Another small advantage that helped 21st AG manage logistics more efficiently was that, unlike the Americans, the British used a multi-day requisition cycle, with each consolidated request projecting five days of requirements submitted five days prior to execution. This gave logisticians time to hunt down requested supplies and confer with subordination organizations about substitutions if those items were not immediately available, cutting down on the delivery of material no one had asked for.

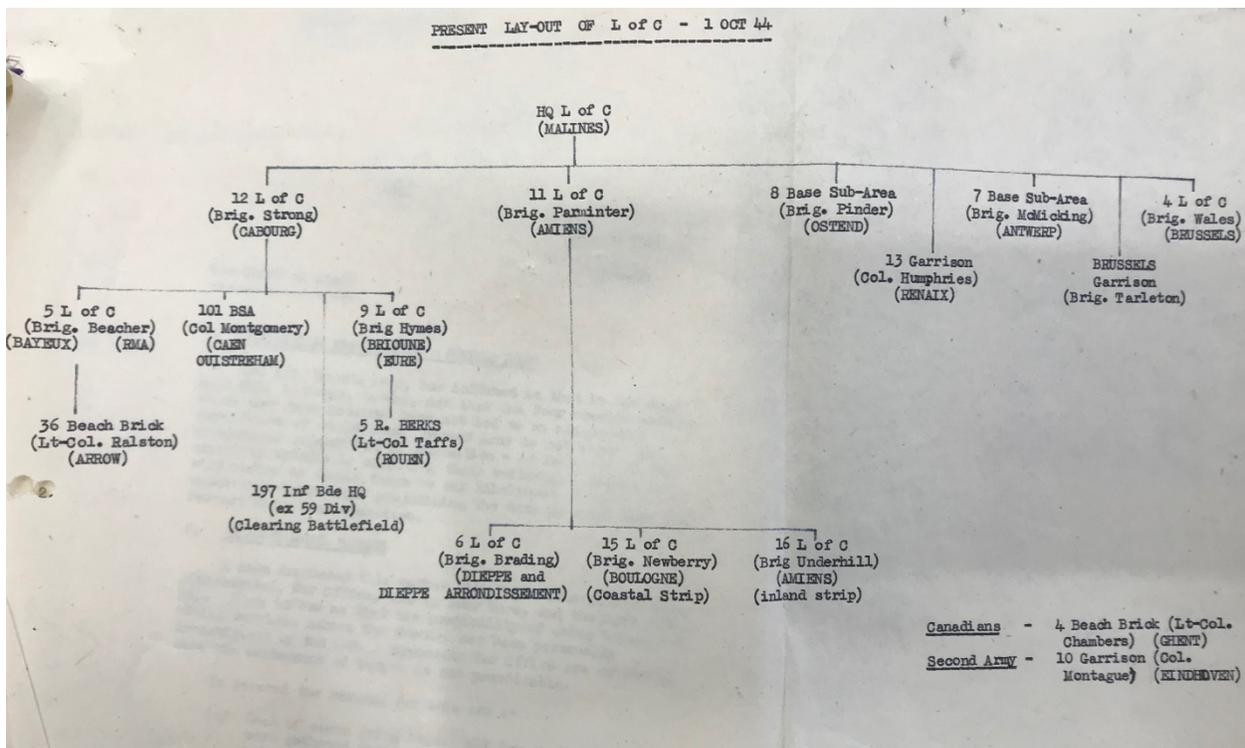


Figure 7.9: 21st AG L of C, 1 Oct 44

¹⁹² Like the Americans, the British discovered it was easier to conduct distinct operations on both sides of the river until more bridges over the Seine were repaired. Trucks and rail delivered to the west bank, where ferries or trucks would shuttle to the east bank. On the far side material was loaded on new trucks and rail cars for delivery to the front.

21st Army Group also took measures to find more trucks, more GT companies, and increase the hauling capacity of the equipment they already had. At the beginning of the month nine anti-aircraft platoons were disbanded to provide additional truck drivers and heavy 10-ton trucks were issued a 5-ton trailer, increasing haul capacity by 50%. The British convinced SHAEF to release the four GT companies on loan to the COMZ on 1 September, and they took delivery of an additional 154 800-gallon POL trucks around the same time.¹⁹³ After SHAEF decided to restart air resupply, 21st AG received 1,900 tons during the period from 2 to 9 September and another 2,200 tons the following week, including 2,308 tons of MT80 between 5 and 10 September.¹⁹⁴ After spending the first half of September shuttling tanks across France, the M19 fleet was reassigned to haul supplies on 14 September, moving 22,500 tons of supplies over the next eight weeks.¹⁹⁵ Once Market Garden was approved Montgomery was promised four truck companies to support the two U.S. airborne divisions and a new express delivery, called Red Lion, to deliver 500 tons of fuel on a daily basis. After a bit of friction with the COMZ, the last four (of nine total) companies arrived on 20 September and the first Red Lion deliveries left Cherbourg on 15 September.¹⁹⁶ In mid-September 21st AG requested an additional

¹⁹³ Admin History of 21 AG, 47. This equated to four U.S. 750-gallon POL companies. These trucks could move 500 tons of fuel from Bayeux to the front every 2-3 days. This equated to the daily consumption of one mechanized corps with three divisions.

¹⁹⁴ Ibid, 36, 48.

¹⁹⁵ Ibid, 37.

¹⁹⁶ The number of U.S. truck companies working for the British during Market Garden, and their associated timelines, are a matter of disagreement among various sources. All told, nine U.S. truck companies provided direct support to 21st AG, consisting of the organic company from the 101st, four companies put at the disposal of the British, and four companies assigned to the Red Lion route. This was noted in the daily logs of the Q Branch (Movements) at HQ, L of C, 21st AG in their entry for 16 September. See WO 171/721, National Archives, Kew. On 19 September the vehicle train for the 101st Airborne moved by road from Omaha to Bourg Leopold to tie in with the British resupply effort in Holland.

seventeen GT companies from the War Office, and by 3 October the units were operating on the continent.

By mid-September the frustration felt by Montgomery and the staff of 21st Army Group with a perceived lack of support from COMZ had reached a boiling point. A few minor issues very quickly escalated to the point where Montgomery engaged SHAEF to secure better support from Lee's organization. Official histories from the time do not address why 21st Army Group seemed to have such a short temper with COMZ, but delays in transferring truck and rail assets from U.S. to British control caused three nasty exchanges in as many days in the middle of the month. Based upon the narrative from the official history of the ETOUSA G-4, it seemed as if Stratton was more concerned with defending his organization than identifying and fixing the problems reported to SHAEF. Three incidents are noteworthy because they illustrated how difficult it was for the COMZ to synchronize logistical support for any new major operation and how precarious was the hold that COMZ had over the resources nominally under their control.

A confrontation between the transportation team at 21st Army Group and their counterparts at SHAEF and ETOUSA had been building since late August. "Railway Power and Stock," published on 1 September 1944 was based on the promise from SHAEF that 21st AG would receive priority for locomotives and rolling stock, that COMZ would comply with the transfer timeline from 3 to 12 September, and that this plan would allow the Army Group to move 5,000 tons a day from the RMA to the west bank of the Seine by mid-month. "Rail Development, British Zone," sent to SHAEF on 16 September, illustrated the distance between the plan and the reality confronting the British two weeks later. COMZ had come nowhere close to sticking to the transfer timeline, and they had fallen 1,000 cars behind the goal of 3,300 to be surrendered by 12 September. As a result, 21st AG was moving only 2,500 tons by rail a day

between the RMA and the transfer point at the Seine, or half the stated goal, with the balance being covered by long-haul motor transport. Reports of this mix-up had reached the highest levels of command in 21st Army Group by 12 September, leading to the fireworks between Montgomery and Gale over the coming weeks.

The last straw that caused the open break between 21st AG and COMZ was the agreement, captured in a directive issued by SHAEF on 13 September, which ordered COMZ to support the buildup for Market Garden by establishing a new express route, Red Lion, to deliver 1,000 tons a day earmarked for participating forces.¹⁹⁷ Less than 24 hours after the order was issued, SHAEF received a complaint from 21st Army Group that COMZ was ignoring the directive to provide four truck companies to support XVIII Airborne Corps. In response, Stratton informed SHAEF that he was still awaiting detailed instructions on where the companies were needed and what dumps the 82nd and 101st divisions would draw their supplies from in Belgium.¹⁹⁸ More problematically, Stratton complained that COMZ had not been briefed on or included in the planning for Market Garden and therefore could not make logical assumptions about how to support participating American formations. Evidently Lord had not gotten word of the results of the 12 September meeting at 21st AG headquarters to Stratton in the subsequent 24

¹⁹⁷ Official War Diary, 12 Sep 44, Gale Papers, II/14-25, Liddell Hart Center, King's College. W.B. Smith visited 21st AG HQ on 12 September and took Gale and Lord to work out exactly how to support the operation that Eisenhower and Montgomery had agreed to on 10 September. The scale (1,000 tons daily) and means of delivery (eight or nine US truck companies) were not worked out until that afternoon. Gale recorded his frustration with Graham, who did not know exactly what he wanted or needed from SHAEF and COMZ, leaving Gale and Lord to fill in the details.

¹⁹⁸ "History of the ETOUSA G-4", 23. The history concludes that after a short investigation, the G-4 discovered that a British officer, COL Oliver Poole, in the 21st AG Q section was supposed to have coordinated COMZ support to MG and had never done so. Poole visited XVIII ABC at Moore Park on 12 September and passed his recommendations along to Graham that same day. Graham responded to Poole, telling he would work out the details he had suggested in three days at the Friday CAO meeting. See "Trip Report" 12 Sep 44, Poole to DQMG WO 171 / 146 Q Plans. Major Wetzler, the ordnance liaison officer from XVIII ABC reached COMZ on 15 September and gathered enough information from 21st AG to coordinate the details associated with resupplying the two airborne divisions. Major Curtis Kimball, another liaison officer from the U.S. ABC, was attached to 2nd Army on 14 September to work the same issue. See "On Operation Market" 9 Oct 44, Kimball to CG, XVIII Corps, WO 171/231 HQ 2nd Army Rear Q Branch Oct-Nov 44.

hours, and XVIII ABC had not passed along the decisions reached with Poole during his visit to their headquarters, also on 12 September. The idea that the COMZ G-4 knew next to nothing about Market Garden on 13 September, three days before its projected starting date and despite two high-level meetings on the subject, revealed the problems with internal communication in the organization. It was unrealistic for 21st AG to expect execution of the sustainment plan the day after the details were worked out, but Stratton and COMZ should have been aware of the general concept by the afternoon of 13 September at the latest.

The next day was not a good one for Stratton or the COMZ; that afternoon another complaint was lodged by 21st Army Group, this time over problems with initiating the Red Lion express route. After a bit of digging, the G-4 was told by the Omaha district commander that he had talked to his British counterpart earlier, who had asked the Americans to hold off a few days until they were ready to integrate the four new companies into their convoys.¹⁹⁹ Regardless what really happened, a second report of COMZ incompetence or intransigence bounced around between 21st AG and SHAEF that afternoon. The problem was quickly fixed when the ETOUSA G-4 section coordinated directly with 21st AG, but by then the relationship between 21st AG and COMZ was poisonous.²⁰⁰ The final issue that Stratton felt compelled to capture in writing was a report that COMZ was holding on to rolling stock they had been ordered to turn over to the

¹⁹⁹ Admin History of 21 AG, 24. Major Kimball, the US liaison officer at 2nd Army, believed the suspense for the arrival of U.S. service troops to support the two airborne divisions was 19 September and that the first ground convoy needed to reach the division support areas by 22 September. It is entirely possible that the British logistics command had not figured out how to fold Red Lion into their overall transportation plan, or that officers were confusing the plan and timelines associated with direct support of XVIII ABC as opposed to the daily delivery of 500 tons of fuel Eisenhower had promised Montgomery on 10 September. Once again, it seemed unrealistic to demand that a plan that had only been worked out on 12 September would be running smoothly by 14 September.

²⁰⁰ Gale records in his war diary that Montgomery grew increasingly frustrated with SHAEF and COMZ between 10 and 21 September, blaming the failure of his push to reach the Rhine on poor logistical support from both commands. Montgomery was correct that COMZ delay in transferring rolling stock on schedule had a major negative impact on his logistical situation by mid-September, but his complaints about motor support were unfair. Regardless, by 21 September the log staff at 21st AG were no longer interested in coordinating with, much less cooperating with, COMZ and SHAEF.

British. This report was sent to SHAEF on 16 September; without providing any details, the ETOUSA G-4 history stated that upon further digging the information was determined to be incorrect. In this particular incident Stratton might have been correct, but this ignored the disastrous failure by COMZ over the last two weeks to comply with the transfer order issued by SHAEF on 1 September.²⁰¹ Friction of this nature was common under stressful conditions throughout the war, both between US and British organizations, and between combat and support echelons. The fact that 21st AG felt compelled to lodge a formal complaint with SHAEF rather than just fix the gap in communications behind the scenes and that Stratton was so concerned about getting his rebuttal into an official document seems a bit odd. Both parties shared some blame in these mix-ups, and the fact that fairly routine failures to coordinate were still happening two months into the campaign strongly suggested that all was not going well with sustainment at the theater-level.

Despite the initial friction associated with getting Red Lion started, the mission proved to be a success story for ETOUSA once it was up and running. Reacting to the order issued by SHAEF on 13 September, COMZ switched out veteran truck companies from the Red Ball with provisional companies recently created by stripping personnel from the 26th, 94th, and 106th infantry divisions.²⁰² The eight companies tasked with running Red Lion were assigned to Normandy Base section and provided service to 21st AG from 16 September to 12 October,

²⁰¹ "Railway Power and Stock" 1 Sep 44, WO 171 / 148 War Diary for 21st AG Q (Movements) Aug to Dec 44. "Rail Developments, British Zone," memo from BG MacKillop to Appleton, 16 Sep 44, WO 171 / 148. MacKillop was the DQMG for Movement at 21st AG and Appleton was the director of military railroads for SHAEF. By 16 September COMZ was 1,000 cars (33% of those directed) behind in its transfer schedule to the British.

²⁰² "History of TS, ETOUSA, 1942-1945", 15. RG 498, UD 1210, Box 5981. "History of ETOUSA G-4", 25. General Thrasher, the commander of Oise Base Section ended up getting most of the 35 provisional truck companies manned by infantrymen, artillerymen, and anti-aircraft gunners from the three infantry divisions and separate AAA units. Not surprisingly, Thrasher noted the high discipline and excellent performance of these provisional companies. It was not because they were combat arms soldiers, but complete units with a functional chain of command. In contrast, about a third of the QM truck companies were filled with drivers that Ross and Lee had scrounged up from across COMZ.

moving supplies for the two U.S. airborne divisions and fulfilling a pledge given by SHAEF that COMZ would deliver 500 tons of POL daily to sustain Market Garden.²⁰³ Red Lion delivered an average of 651 tons a day during the operation, and, on the peak day of 20 September, 246 trucks delivered 1,644 tons of supplies to dumps around Brussels.²⁰⁴ The route used was 306 miles long, running from the RMA at Bayeux to the 2nd Army forward depots around Brussels. This month-long surge provided concrete proof of what COMZ and OCOT could accomplish when focused and challenged by SHAEF. It also demonstrated the utmost limit of what eight truck companies may have been able to accomplish if given a similar focused mission in support of 3rd Army between mid-August and mid-September. Despite the level of support provided by the Red Lion operation, friction between 21st AG and COMZ reached its peak intensity by the time Market Garden was winding down. Graham continued to complain to Gale that COMZ had failed to adequately support the two airborne divisions, although the crux of the problem seemed to be a breakdown in communication and not a shortage of resources.²⁰⁵ The detailed after-action report submitted by Major Kimball on 9 October seemed to confirm that interpretation. Kimball struggled to identify the best location from which to perform his duties, moving from 2nd Army to First Allied Airborne Army to ETOUSA in the course of eight days. Kimball concluded that logistical challenges in the corps were almost inevitable because of the complexity associated with trying to blend two national systems, insufficient long-distance communications equipment, and ignorance of and ill-discipline in following procedure within the two U.S. divisions. Kimball was very appreciative of the support he and his command received

²⁰³ “History of the ETOUSA G-4”, 52. RG 498, UD 578, Box 3931, ADM 553A and B.

²⁰⁴ “History of the ETOUSA G-4”, 52. “History of TS, ETOUSA, 1942-1945”, 15. RG 498, UD 1210, Box 5981.

²⁰⁵ Cable, Gale to Graham, 22 Sep 44, Gale Papers, I/5 Cables Received and Dispatched, Liddell Hart Center, King’s College.

from COMZ during the operation, once everyone had figured out how to effectively coordinate with one another.²⁰⁶

Regardless of coordination problems with COMZ, the various British expedients to generate additional distribution tonnage directly contributed to the success of the advance in early September. These measures allowed 2nd Army to reach the Dutch-Belgian border while 1st Canadian Army simultaneously seized two or three of the Channel ports, while at the same time the Army Group was able to amass the supplies and forces necessary to launch Market Garden. These successes were achieved despite the distraction presented by the need to use 800 6- and 10-ton heavy lorries on a four-day mission to bring up bridging material from the RMA to east of Brussels and the discovery that 1,400 of the Austin 3-ton lorries had defective engines and would have to be withdrawn.²⁰⁷ But when Market Garden failed to secure a bridgehead on the far side of the Rhine, 21st AG reached the conclusion that it could not logistically support the two operational objectives Montgomery was pressing for. Between 24 and 30 September COL Poole sent three appraisals designed to illustrate the impossibility of starting two army-level attacks on 7 October, the objective date given by the operations staff.²⁰⁸ It had become obvious that 21st AG could no longer accomplish all of Montgomery's goals and needed to make hard choices or else find new solutions to the logistical challenges faced by the command.

²⁰⁶ Kimball, "On Operation Market", 5, WO 171 / 231 HQ 2nd Army Rear Q Branch, National Archives, Kew.

²⁰⁷ Admin History of 21 AG, 37, 47.

²⁰⁸ WO 171 / 146 Q Plans. Documents and war diary entries between 14 and 30 September. On 14 September Poole published his transportation estimate, laying out what was required to move five corps across the Rhine. On 19 and 24 September he visited 1st CAN AR headquarters to confer with General Walford, the MGA, about his requirements for Infatuate. On 24, 27, and 30 September sent an escalating series of notes trying to point out that the logistical challenge associated with launch two simultaneous attacks was impossible, recommending the AG focus on supporting 1st CAN Army. On 30 September his immediate superior, BG Feilden, laid out how to distribute supplies if 2nd Army's advance on Köln was given top billing, which was covered in more detail in an outline published on 3 October. It is this information that leaked out of 21st AG and alerted SHAEF that Montgomery was ignoring instructions to focus on Antwerp. Under the concept advanced on 30 September, 1st CAN AR would receive only half of what it thought necessary to clear the approaches to the port.

Recovering from the Period of Frantic Supply

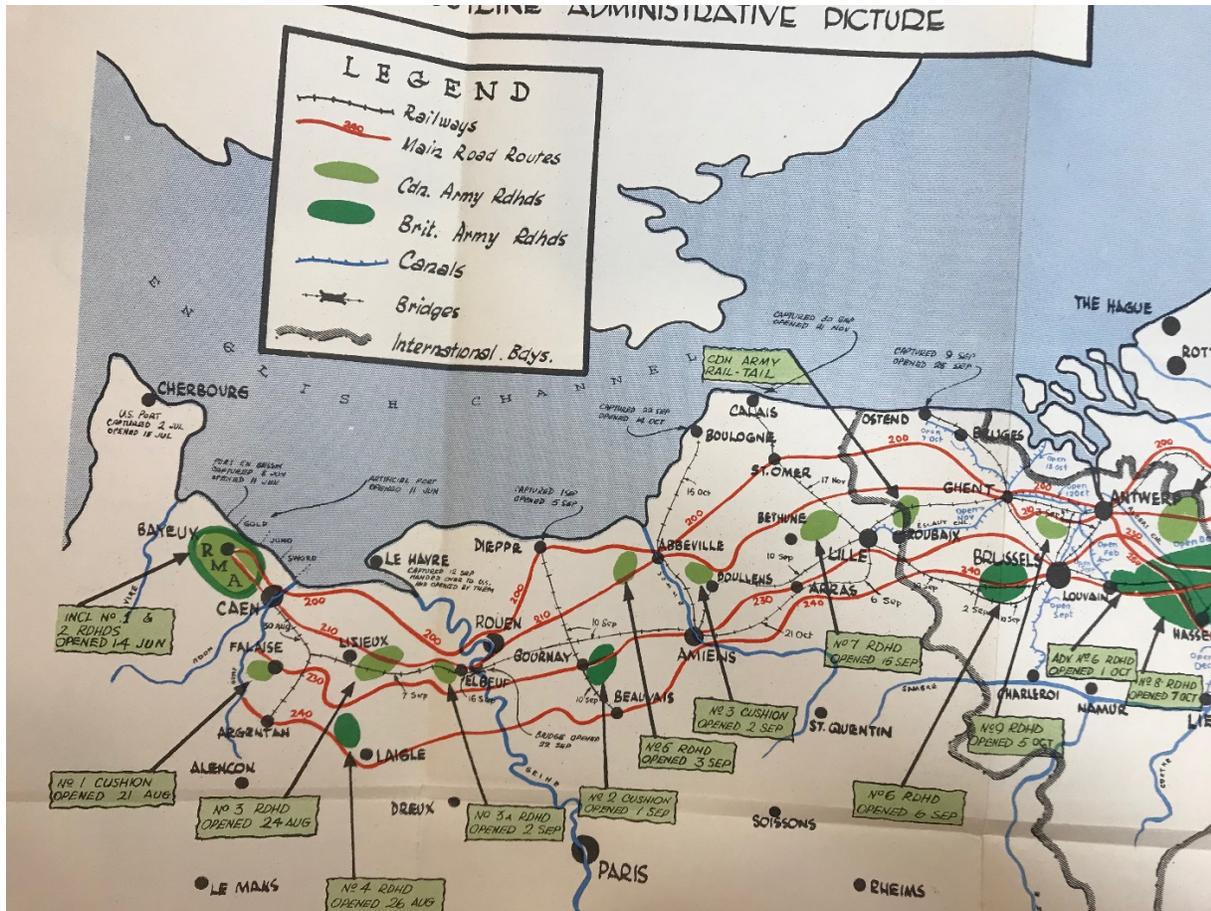


Figure 7.10: Expansion of the 21st AG L of C operating area, Jun to Oct 44²⁰⁹

In the end, the immediate solution was to prioritize 1st Canadian Army for supplies, cutting 2nd Army back to reduced, defensive scales. But almost simultaneously, increased discharge rates at British-controlled Channel ports and rising rail capacity solved the crunch that had emerged at the end of September. By the beginning of October about half of the army group's supply requirements were flowing through Dieppe and Ostend (including 100% of the requirements for 1st CAN AR) with the other 8,000 tons still coming from Normandy, but much

²⁰⁹ Carter and Kann, *Maintenance in the Field, Volume II: 1943-1945*.

of the distance was being covered by trains rather than trucks.²¹⁰ Direct rail travel across the Seine resumed on 22 September, but shortages of rolling stock, engines, and coal remained acute well into October.²¹¹ Opened on 28 September, Ostend provided bulk POL discharge a quarter of the distance away compared with the terminus of the Minor System back in Normandy. On 7 and 8 October 2nd Army acknowledged receipt of 8,445 and 7,040 tons respectively, with 90% of the weight handled by trains and the balance traveling by a mix of truck and plane.²¹² The official administrative history of 21st Army Group proudly notes that there was no maintenance or ammunition crisis at any point from August to October.²¹³ The British pointed out only two problem areas that hampered operations in the last quarter of 1944: a shortage of M19 or M25 tank transporters in October and a minor tire crisis that emerged in December that grounded four GT companies.²¹⁴ By 10 October SHAEF had an accurate appreciation of the relative logistical conditions between 21st and 12th Army Groups – supplying the British was no longer an item of concern. “We are having very considerable worries at the present time and while the 21st AG situation... [is] fairly satisfactory...[the] U.S. picture is highly unsatisfactory owing to: naval difficulties in cleaning up Le Havre and Rouen and the delay in capture of Antwerp. The railway situation, however, on both sides shows a steady improvement.”²¹⁵

²¹⁰ About 2,300 tons of 2nd AR’s 7,700 would be carried by truck while 3,600 tons of 1st CAN AR’s 4,700 would be carried by truck because of the much shorter distance from ports to dumps. 21 AGp/5553/5/Q (Maint) 2, 2 Oct 44, WO 171/ 671 Overlord Maintenance Appreciation G (Plans), Rear HQ, 21 AG, B.L.A.

²¹¹ Admin History of 21 AG, 44.

²¹² HQ 2nd Army Rear Q Branch War Diary, 7 and 8 Oct 44, WO 171 / 231. Receipts for 3 and 4 October were comparable. 1 and 2 October receipts were 6,368 and 5,480. The aggregate supply situation for fuel, rations, and ammunition in 2nd AR on 1 October was excellent, with receipts far outstripping issues and at least five days of reserve on hand. Doubtlessly there were very specific items of concern, but at the army level the command was in good shape.

²¹³ Admin History of 21 AG, 50.

²¹⁴ Ibid, 67. There were insufficient transporters to move replacement and reserve tanks from the RMA at Normandy up to the new base east of Brussels. This had no impact on tank strength within operational units or projected operations that fall.

²¹⁵ Gale to General Thomas S. Riddell-Webster (the QMG of the British Army), 10 Oct 44, Gale Papers, I/3, Sec/CAO/5, File No. 2, 1 Aug 44 – 15 Jan 45, Liddell Hart Center, King’s College.

Even if administrative tasks generally ran more smoothly at 21st Army Group, the command still had its share of problems. The strength of the relationship between Gale and Graham allowed both men to be honest with one another, and Graham was not afraid to ask for help when he needed it. Both men were in constant communication, talking at least daily during the logistics crisis of early September, and Gale and his key subordinates were frequent visitors at the various Army Group command nodes. Gale noted on 16 September that Brigadier McKillop, the movement and transportation chief at 21st AG, was emerging as a weak link, an assessment that Graham seconded.²¹⁶ Gale recorded that the perfect man for the job was Rhe Philipe, who was still at AFHQ; an immediate solution was to send technical experts from SHAEF to help MacKillop sort out his problems. For the next couple of weeks MG Napier and COL Appleton, the American rail expert on the SHAEF staff, spent as much time at 21st Army Group as they did at Versailles.²¹⁷ At a meeting on 21 September at 21st AG headquarters, Montgomery tried to pin his logistical problems on Gale in front of Eisenhower, but neither officer accepted the criticism; Montgomery's recent operational failure could not be blamed on a lack of supplies or transportation. Gale did admit that the U.S. sustainment status as managed by COMZ was a mystery to both SHAEF and 12th Army Group, but he said that this had no immediate impact on the British army group.²¹⁸ Over the next few days Gale reached the conclusion that no headquarters really knew what was going on in the realm of logistics at the required level of detail because of poor communications and management practice, and he believed that reality on the ground was probably better than most senior officers suspected.²¹⁹

²¹⁶ Gale's Official War Diary, 16 Sep 44, II/14-25. On 20 September Graham admitted to Gale that the army group's management of its rail assets was a mess.

²¹⁷ Gale's Official War Diary, 20, 21, 24, and 26 Sep and 1 Oct 44. Gale and Napier visited the British Army Group almost daily during the last ten days of September, and Appleton stayed at 21st AG from 26 September to 1 October.

²¹⁸ Gale's War Diary, 21 Sep 44.

²¹⁹ Gale's War Diary, 22 and 23 Sep 44.

Another bit of good news arrived on 24 September, when the War Office agreed to replace MacKillop with Wansbrough-Jones, of whom Gale thought highly, while Napier and Appleton suggested that they had found a suitable officer to act as the director of military rail for 21st AG.²²⁰ The combination of new men, constant help from the experts assigned at SHAEF, and rising numbers of engines and cars helped 21st AG work out its rail transportation problem by early October, the direct result of honest communication between Graham and Gale and of the moral courage to quickly sack a brigadier general when he did not perform up to his duty.

It was all the more painful then when General Nye, during a visit in France, accused Gale of allowing bad relations to fester between the British officers at SHAEF and those serving in the War Office and at 21st AG.²²¹ Over the last four weeks Gale and his senior assistants at SHAEF had done everything within their power to help 21st AG overcome its transportation problems, replace weak leaders in key positions, and force COMZ to fulfill its promises and duties. Nye's accusation stung Gale deeply, driving him to report the incident, in separate letters, to both LTG Morgan and Smith. One constantly reads about the grumbling among the Americans about how Eisenhower was too generous with his British counterparts, but there is almost nothing about similar infighting among senior officers in the British Army. It is obvious from reading Gale's official war diary and Poole's notes to his superiors preserved in the 21st Army Group records that similar friction existed among British logisticians, but these divisions did not make it into the wider historical record in comparison with the infighting among Americans. Regardless of any legitimate accusations of friction throughout the British officer corps, Gale's and Graham's professionalism and open communication, shared by their immediate subordinates, were one of

²²⁰ Ibid, 24 September. The military rank of Wansbrough-Jones and Bell, the rail man, were not mentioned.

²²¹ Gale's War Diary, 29 Sep 44.

the major reasons 21st Army Group so quickly overcame its own logistical crisis in the second half of September.

In hindsight the British Army thought that 21st Army Group entered the campaign in France well equipped to manage large-scale logistics in a complex and changing environment. The second half of the administrative history of the 21st Army Group transitions from a chronological narrative to a collection of lessons learned and recommendations broken down among the various services and subordinate organizations. This section opens by stating that the campaign in Europe “confirmed that the established principles on which administration is based were sound,” but this was so only because they had been properly nested within an environment where flexibility and the ability to make sudden adjustments was valued.²²² Furthermore, operations in 1944 “confirmed what had already been learned in the Desert and in other campaigns in this war that the previous system of maintenance was no longer applicable.”²²³ Specifically, routine delivery of material based exclusively on historical consumption data, within a structure managed semi-autonomously by each service, was a recipe for disaster. The first campaign in France and operations in the Mediterranean had driven home the need for different categories of consumption forecasts that accounted for the variation introduced by different types of operations, weather, and climate. The expenditure of ammunition, fuel, and engineer and ordnance stores (repair parts) changed drastically if one was executing a deliberate attack, pursuit, active defense, or rear area duties, and planning data had to be accurate for each condition. Second, the best organization for combat -- combined arms formations -- tended to scramble the branches together without necessarily ensuring that their logistical support units

²²² Admin History of 21 AG, 142.

²²³ Ibid, 142-143. The previous system of maintenance referred to here was the one used in France in 1918 and attempted in 1939/1940 and early during the Desert War.

were transferred as well.²²⁴ To account for these two major variables (radical variations in consumption rates based on external factors and the superiority of combined-arms organizations), the British had learned to maintain a wide variety of supplies and equipment in small quantities in the corps Field Maintenance Center (FMC). These FMCs, outfitted with organic transportation, were designed to sustain the corps through two to four days of combat even if communication to the rear was cut or the line of communications was disrupted by enemy action, and bridge the time-gap until the push system could adjust to a radical change in projected requirements.

Operations during the pursuit and build up along the Rhine also validated the decision to centralize coordination for logistics under a general staff, rather than delegating the function to the technical service sections. The administrative history of the 21st Army Group included the observation that “One of the most important lessons of the campaign was the vital necessity for the staff to exercise the closest control on the movement of material and equipment.... The allocation and control of transport and the major stores requirements are the responsibility of Q (Maint).... The campaign established beyond all measure of doubt that all road transport must be regarded as a pool.”²²⁵ The British had faced the exact same problems seen by the U.S. Army in France during the Great War, come to similar conclusions on how to fix them, and had largely perfected its logistical systems before Overlord. Technical service sections and special staff officers were vital, but their activities would be directed and synchronized by Q Maintenance and Q Movements, supervised by a powerful MG-Admin with control over the entire

²²⁴ Meaning that a battalion, and in most cases regiments, tended to consist almost exclusively of one type of company rather than the mix that proved most effective in combat. Therefore, a REME repair unit assigned or attached to a tank brigade was likely to only have tank mechanics and repair parts. This was problematic when the division command reorganized his brigades to create balanced, combined-arms formations and did not similarly address the logistical side of the equation.

²²⁵ Admin History of 21 AG, 143.

administrative apparatus and easy access to the commander and the maneuver portion of the staff. The British did not have their version of a MG Frank Ross with his office of strong subordinates who were constantly at odds with BG Stratton and the ETOUSA G-4 section. Not only had British practice established that Q Maintenance was in charge of driving the system, but everyone knew and acknowledged it, and the British Army had worked out the systems to make it function under a wide range of combat conditions. Just as the requisition process was centrally managed by the G-4 (MGA), transportation was massed and synchronized within the same section. Staff nodes positioned themselves alongside operational and subordinate staffs to plan and direct these activities, as noted in the example of TRANSCO and 11th LoC Area at Amiens in September. The British and the Americans were trying to use the same concepts, but the difference was that 21st Army Group had a system in place that could handle the challenges presented by mobile warfare while the COMZ did not.

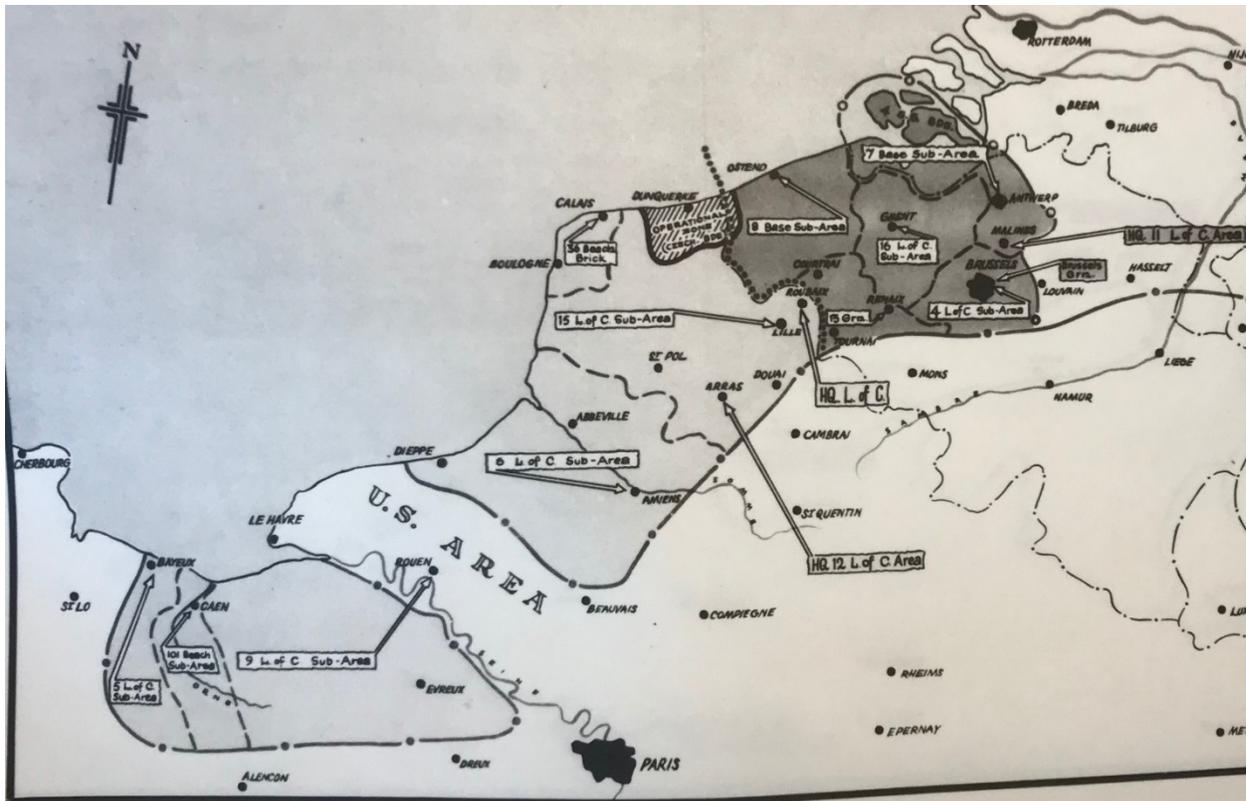


Figure 7.11: Organization of the 21st AG L of C as of 31 Dec 44²²⁶

British superiority in administrative planning and management seemed to boil down to making more accurate and flexible consumption estimates, maintaining short-term reserves at the corps level, and having hands-on control by experienced, senior logisticians at the army group and joint-combined headquarters. The British Army had learned how to be a bit more efficient after three years of mechanized combat in the desert, and they had figured out how to make economies of scale work in their favor in France, cutting down from a gross division of 65,000 to 40,000.²²⁷ The official history of administrative planning in the British Army during the war

²²⁶ Appendix J1, Administrative History of Operations of the 21st Army Group.

²²⁷ Wilson, *Administrative Planning*, 62, 160. The U.K. term “gross division” referred to the total number of men required in the field per combat division. In France the number was 40,000, or 16,000 in the division plus 24,000 in the corps, army, army group, L of C, and RAF elements on the continent. In France each gross division needed 675 tons of supplies a day, with 520 tons required beyond the army railhead. The number for Torch was 65,000, driven by the need to cover for initial U.S. deficiencies in service troops and strong air and navy contingents in the forward area.

notes a major difference in national methodology: U.S. logisticians tended to over ensure, thus filling the sustainment pipeline with more material than could be unloaded and pushed forward; but in the sphere of improvisation, the Americans were brilliant, if they did not always count the cost.²²⁸ COL Wilson, the author of the volume on administrative planning who served in the office of the Quartermaster General in London during the war thought that the “British administrative planners [were better] prepared to look a year ahead than their American counterparts, and usually get more support from their commanders and general staff when doing so.”²²⁹

Not only were senior British logisticians better at setting conditions for operational success (or better able to communicate limitations and influence the behavior of their commanders), but there is very little mention of infighting within 21st Army Group or between the army group and SHAEF. We know there were breakdowns among the administrative staff at 21st Army group and that there was friction between them and their counterparts at SHAEF and COMZ, but these issues generally stayed out of the historical record. One reason for this was the small output of published material from the British War Office and Army immediately after the war. In contrast to the British approach, the USFET General Board Reports, the Green Books, and a flood of memoirs written by American generals covered disagreements and shortfalls in extreme detail, often assigning blame to an individual or organization. British experts cited in U.S. accounts provided muted feedback, generally taking the high road and keeping any friction and criticism that had emerged during the war to themselves. In their accounts, the British never seem to blame their logisticians or COMZ for the halt along the Albert Canal on 5 September

²²⁸ Ibid, 64.

²²⁹ Ibid, 65.

and the failure of Market-Garden, emphasizing instead the argument between Montgomery and Eisenhower about how to run the ground campaign.

The British had their share of logistical challenges in September, but after Market Garden Montgomery had a strong motive to cover up his prioritization of 2nd Army at the expense of Operation Infatuate. Eisenhower was similarly motivated to dismiss British logistical successes by minimizing the scope of the problem and underplaying the ruthless prioritization and effective control exhibited by 21st Army Group, which made COMZ look bad in contrast. Despite the very real challenges faced by 21st Army group during the second half of September, the official administrative history of 21st AG accurately pointed out that offensive operations continued in September and October, that the overall British logistical situation was very positive by early October, and that only two minor shortages impacted the British campaign that fall. There is no historical record of conflict between fighting and sustaining generals, either during or immediately after the war.²³⁰ This is because the logisticians within 21st Army Group, ably assisted by Gale and his team, very quickly overcame the transportation crunch that limited British options in late September, and those same officers were not outsiders but valued members of the same organization. The administrative staff at 21st Army Group and the L of C commands within its structure were under the complete control of one commander, responding to his priorities appropriately. There was no “us versus them” within 21st Army Group, and the minor friction that emerged between Graham and Gale in September was quickly resolved and forgotten in the official record after the war.

²³⁰ Gale’s War Diary mentioned cases where Montgomery had lost faith in Graham, and Gale had his own doubts about Graham, both in North Africa and France. Gale took steps to have two brigadiers relieved for professional incompetence. These opinions and actions were not recorded in any official histories published by the U.K. Nowhere in these histories are there references to outright arguments between the L of C command and the main staff within 21st Army Group, or a failure of the L of C to do its duty.

Conclusion

The U.S. drive across France broke down in early September because the COMZ staff could not deliver enough fuel. There were more than enough cargo planes and trucks to have done so, but COMZ did not know how to harness the incredible resources at their disposal. Lee and his senior subordinates at ETOUSA struggled to overcome the transportation crisis experts had projected would emerge in that period of time when motorized forces were driving deep into the enemy rear before rail service could be restored. This failure to execute was COMZ's alone, but blame for other complicating factors was shared across the entire Allied operational chain of command. SHAEF might have made different decisions that could have eased the obstacles faced by the logisticians, or it might have developed more insightful and better resourced plans. Various commanders and their staffs might have demonstrated improved technical competence and flexibility, or they might have started working on the continent sooner than early August, gaining practical experience and refining systems before the crisis hit. In the end, the ability to blast through friction and accomplish tactical tasks can trump bad organization, planning, and mistakes beyond one's control; but poor execution can also transform the best prepared concepts into abject failures in the field. It surprised almost no one that some of the most critical capabilities required of ETOUSA during periods of mobile warfare were the ability to control massed motor transport, move bulk fuel over continental distances, supplement the primary transportation network with large-scale aerial resupply, and coordinate the interaction among air, rail, and motor delivery assets. Sufficient resources existed to have accomplished more in August and early September, but COMZ and SHAEF did not have the technical skills and processes to do so. That a greater level of efficiency was possible was demonstrated by the

accomplishments of 21st Army Group during the same time period, and by ETOUSA itself in the spring of 1945.

COMZ realized too late that their routine, push-based system largely controlled them, rather than the command controlling exactly what was shifted to the front. This resulted in the delivery of thousands of tons of non-critical supplies at the same time that the cutting edge of the Allied force ran out of fuel, ammunition, and replacement weapons. Repeatedly the ETOUSA plan called for a technical staff section or single-capability service unit to solve what was a multi-echelon and multi-skill set problem. Because COMZ lacked any standing mixed-service organizations below the base section level, long-haul motor transport, aerial resupply, and POL pipelines were less effective and efficient than they might have been. COMZ built a system in the U.K. that demanded that they exercise centralized control over the base sections and technical services, and then they failed to provide that supervision once in France.

Unaccustomed to and unequipped to fill that void, the OCOT, Motor Transport Brigade, CATOR, and Military Pipeline Service struggled to accomplish their missions during the pursuit. Eventually each one of these organizations learned how to do its job, or it was replaced by someone that could, but these changes came too late to maintain Bradley's momentum. That these shortcomings still existed almost two years after the United States had initiated theater-level ground combat against the Germans might be perplexing to some.

The contrast between the U.S. and U.K. experience in confronting and overcoming the transportation crisis of September provides some insight as to what weaknesses still existed at COMZ. In almost every case, it was not a case of the British demonstrating great originality but a case of the effectiveness of the measures taken, both in driving subsequent actions by subordinate headquarters and in fixing fundamental problems. The only British advantages that

SHAEF and ETOUSA could not or would not duplicate were the integration of the L of C command under the authority of the army group and the higher concentration of well-trained light, medium, and heavy truck platoons relative to the number of combat divisions.

Montgomery was more attuned to the limitations imposed by logistics and operated accordingly, driving his staff to develop proactive solutions and listening to the recommendations of his sustainment experts. The 21st Army Group weathered the difficulties imposed by the rush across Belgium, managed to stitch together one last major offensive designed to get across the Rhine, and then consigned themselves to resourcing 1st Canadian Army's bid to clear the Scheldt at the expense of one more push by 2nd Army. Before the end of the first week in October 21st Army Group had completely recovered its logistical equilibrium while simultaneously preparing for a major offensive to the northwest. This was the result of good staff work and impressive performances by the support units charged with opening new ports, restoring rail service, and maintaining and maximizing the value of the truck fleet until those other resources could fill the gap. In the end, the superior ability of 21st Army Group to manage this tough period was largely attributable to two extra years of practical experience and to the infusion of experienced officers Montgomery brought along with him when he moved from 8th Army back to the U.K., a change replicated at SHAEF by Eisenhower and Gale, but largely missing in ETOUSA and FUSAG. And by August 1944, FUSAG had two months' combat experience under the tutelage of 21st Army Group, while COMZ had focused on running Reverse Bolero.

It is important to acknowledge that providing a few extra hundred tons of fuel to 12th Army Group at the end of August was not a silver bullet for winning the war early. The delivery of more fuel to Patton and Hodges might have exposed or produced some other supply or transportation shortfall. A quicker U.S. advance in August might have triggered the Germans to

react faster or to send larger reinforcements to the Rhine. It does not require a leap of fantasy to imagine a scenario where an overextended American corps was obliterated on the wrong side of the Moselle or Rhine River. Decisions based upon the risk-reward calculus of all of these potential developments would have fallen on maneuver commanders at a couple of echelons, but more fuel at the front in the last week of August would not have automatically translated to earlier penetration of the Westwall and the reduction or elimination of the industrial potential of the Ruhr and Saar. But getting through the Westwall sooner would have presented more options for the tactical and operational commanders trying to maintain pressure on the Germans that fall. COMZ showed that they did not have the technical skills and procedures to quickly identify and solve what would have proven to be the “crisis of the moment,” fully understanding that, once the current crisis was solved, a new crisis would have emerged behind it.

The lack of finesse demonstrated by COMZ during its first two months of operation under combat conditions is not surprising, even if its complete unpreparedness to function effectively was. Lee and his organization struggled to transition from the skill set that had proven essential to executing Bolero to that called for by Overlord. Despite concrete examples available from the study of AFHQ, NATOUSA, and the British Army over years of combat, COMZ proved incapable of taking over as an operational headquarters in early August, and had prepared no alternative organization capable of bridging the gap. By May 1944 COMZ had a good general understanding of the key tasks associated with the theater sustainment concept, just not a detailed plan as to how it would synchronize the activities of a dozen base sections and technical service sections under mobile conditions. Lee had not created current and future operations cells capable of synchronizing his base sections and special staff elements. In this

vacuum, the U.S. sustainment system slowly ground to a halt by early October 1944, forcing SHAEF to step in and take over the last fundamental mission left to COMZ.

Chapter 8 - Conclusion

This project began as an examination of the decision made by the Western Allies to attempt to destroy the rail network of France and the Low Countries prior to the landing in, and break out from, Normandy. It seemed odd that the United States and the United Kingdom put so much effort into bombing a means of transportation that would eventually be critical for them to have available in the later stages of the campaign. This resulted in an entirely predictable, and perhaps avoidable, logistical crisis at the end of August and early September that eliminated any chance of defeating Germany in 1944 or early 1945. Those results begged a series of questions. Did SHAEF realize the opportunity cost associated with the transportation plan, and was the issue openly debated? Once committed to disabling the rail network, what did the logisticians do to mitigate its impact on the coming campaign? But those questions led to a deeper and more intractable puzzle. Late in the summer of 1944, a group of what one would assume to be experienced Allied leaders and organizations failed to match their operational goals to the logistical means at their disposal; and the official histories, General Board reports, and memoirs could not agree why that had been the case or what modifications might have produced a more favorable result. Faulty organization among the senior headquarters on the continent factored into each narrative; but nailing down exactly what mistakes were made and what might have worked better seemed to elude the various commentators. Something was wrong with the relationships among SHAEF, ETOUSA/COMZ, and the first two army groups operating on the continent, but there was no agreement on the particulars. Regardless of why it happened, the breakdown suggested a second question: How had the Allies possibly made it to September 1944 without figuring out how to organize and run a combined, joint campaign in a theater of war? By this point in the war, the British had four years of experience with expeditionary warfare in a

number of theaters; the U.S. Army two. Why had these lessons and techniques not migrated over to the team in charge of Overlord?

An initial effort designed to answer this second cluster of questions suggested that a series of loosely-structured comparisons might be helpful, and they did provide a number of fresh insights. First, the operational military experience of the United States was very different from the journey taken that of the U.K. By examining the different tactical and operational experiences, two national approaches to extracting and sharing lessons learned, and resulting organizational and procedural changes, began to give some clarity. The different evolutionary paths that those national approaches encouraged are clear in the Allied preparation for and execution of Torch and what was both the same and different during Overlord. AFHQ and SHAEF were very different entities, but they had similar operational problems; NATOUSA and ETOUSA (and their SOS/COMZs) shared many of the same challenges during the early months of their existence. Third, relationships among the top-tier headquarters and their subordinate service commands mattered. Almost no decision was made in a vacuum by one echelon of the chain of command and successful execution always required the cooperation of up to a half-a-dozen large organizations. Ground combat commands played similar roles in complicating life for the theater logisticians and joint-combined headquarters in both North Africa and western France. The 1st British Army, II U.S. Corps, and 18th Army Group each ran things their way, complicating the lives of Gale, Hughes, and Larkin. Similarly, FUSAG, 21st Army Group, and 12th Army Group managed sustainment in a way that created a number of extremely difficult obstacles for COMZ and SHAEF from August to early November. Examining how these three sets of headquarters interacted with one another in two similar campaigns lets new cracks in the accepted narrative emerge. The final piece of the puzzle draws on a deep understanding of the

history of ETOUSA, both of the U.S. Army theater headquarters and its three functional components, especially its SOS under the command of J.C.H. Lee. During the first few months of its existence, ETOUSA was consumed with the task of launching and sustaining Torch, and in its last six months in the U.K. it was dominated by Overlord. But the middle twelve months centered around two equally demanding and only partly reinforcing activities – planning Roundup and executing Bolero. The lack of attention to the operational history of ETOUSA and its SOS likely derived in part from the lack of well-organized records for either command.

It should come as no surprise that the U.S. Army had no idea how to conduct expeditionary joint campaigns as of the fall of 1942, but what is puzzling is the uneven learning that occurred during the next two years of the war in Europe and Africa. This varying rate of development came directly from the poor dissemination of higher-level and technical lessons learned, techniques, and organizational refinements extracted from active theaters. ETOUSA and Lee's SOS gained almost no practical benefit – even as late as August 1944 – from the eighteen months of combat experience amassed by NATOUSA and Larkin's SOS. Conversely, Bradley's FUSAG and 12th AG staff were much better positioned to supervise U.S. operational-level sustainment and to account for the limitations that logistics imposed on maneuver options between June and mid-August. Finally, the British Army was even further down the path of learning than the U.S. Army, largely because of their two-year head start in the war but also because of their long history of launching expeditionary campaigns. By early August 1944 the top tier of Allied headquarters with a critical role in Overlord had vastly different levels of experience and varying levels of competence within the several functional cells of their own organizations. At the start, only 21st Army Group had a fully developed capability to fuse planning conducted by the sustainment and maneuver communities and to manage a campaign

that balanced the two perspectives. In September 1944, SHAEF was hampered by the fact that it had not fully wrestled control of the ground campaign from 21st Army Group and by the assumption that Lee's COMZ would effectively synchronize sustainment. In practice Bradley, Moses, and Plank were better positioned to run an improvised tactical and operational sustainment system, but they did not have the authority or technical expertise to direct the special staff at ETOUSA and to coordinate with the War Department. Only Montgomery's 21st Army Group combined the optimal internal command structure and abundant motorized transportation with experienced, flexible, and disciplined staff and tactical units to overcome various logistical limitations that threatened to disrupt the desired scheme of maneuver. By early October it was clear that SHAEF included a cluster of headquarters with widely different levels of competence where a few weak links were holding back the command. Montgomery's 21st Army Group was at one end of this spectrum and Lee's ETOUSA/COMZ on the other, with SHAEF, 6th and 12th Army Groups, and USSTAF somewhere between them.

This was the result of a number of factors. First, there were significant differences in the way the two countries approached doctrine and in the conclusions they had reached after the Great War concerning theater-level command and control and logistics. Capstone British doctrine was published much less frequently than was U.S. guidance; the British made no effort during the course of the war to update or replace *The Manual of Movement* (1933) or the 1935 *FSR Volume III: Higher Formations*. Furthermore, the two British manuals were dramatically and perhaps surprisingly different from one another. *Higher Formations* was about half the length of *The Manual of Movement* and was written for experienced readers; the content was heavy on broad guidance and included no concrete examples or recommended processes or techniques. The authors of this document refused to try to turn the art of command into a

checklist. *The Manual of Movement* was its conceptual opposite. Hundreds of years of practical experience in overseas expeditionary campaigns forced the British Army to take a deep interest in long-distance transportation and resupply in remote and austere environments. The *Manual of Movement* was written to introduce new officers to the logical and detailed sequence of events needed to project ground forces and maintain their strength during lengthy operations. Managing a transportation network, even under combat conditions, relied on science more than art. The manual explained in great detail the sequence of events through each stage of deployment, providing concrete examples and specific methods of solving problems that young staff officers, lacking any operational experience of their own, would find useful. Despite its age, *The Manual of Movement* remained relevant through 1945.

Notwithstanding the fact that high-level U.S. doctrine consisted of more and longer manuals that were updated frequently, this mass of words could not completely obscure the reality that the U.S. Army had not reconciled its operational shortcomings from World War One with its vision of how to control theater-level war in the future. *FM 100-10, Administration* occupied a pedagogical middle space between the *Manual of Movement* and *Higher Formations*, describing goals and desired outcomes with no practical explanation of steps to achieve them, or, perhaps more accurately, how to synchronize the activities of a number of agencies engaged in the same processes. It left unexamined the relationship between the supply and transportation functions, technical services and the administrative coordinating staff, and the theater sustainment command (the service of supply or communications zone) and the general theater headquarters. The U.S. Army had never reached consensus on why the SOS supporting the AEF in France had been forced to struggle so mightily, much less on how to fix those problems. To a large extent the sustainment issue was displaced and obscured by the battle between Pershing

and March over the division of authority between the AEF and the War Department that was waged during the last six months of the war. The empowerment of the theater commander at the expense of the War Department, which Pershing had desired, was partially undermined by Marshall's reorganization of the U.S. Army in early 1942. Disagreement over the authority of the theater commander relative to Washington showed itself in the battle over control of the special staff at ETOUSA that was waged between Somervell and Lee against Chaney in May and June 1942. Subsequent updates to *FM 100-10* published during the course of the war never tackled this fundamental issue, leaving it up each theater commander to negotiate his own unique relationship with the War Department, any existing joint-combined operational headquarters, and his two or three "subordinate" component headquarters. Unlike British doctrine, which clearly defined the command relationship within the sustainment world and acknowledged that the logisticians worked for the senior maneuver commander, U.S. doctrine attempted to preserve more autonomy and authority for the SOS/COMZ.

The debate over control of theater logistics, then, was complicated by uncertainty within the U.S. Army about how to delineate the role of four new and constantly evolving command echelons that all seemed to be in flux at the same time. U.S. doctrine recognized the role of an Army GHQ for each theater that would in theory synchronize the activity of combat, support, and air elements, but it did not anticipate what would happen when coalition forces were added to the mix or when significant naval operations were called for. Borrowing from British models, Eisenhower established AFHQ with three subordinate functional commands in August 1942. This action immediately called into question the relationship among Gale's team, the U.S. War Department staff, ETOUSA, and Lee's SOS. Things grew even more complex when NATOUSA (with its own COMZ and SOS) and 18th Army Group were established a few months

later. The roles, responsibilities, organization, and personnel strength of each of these organizations was in constant flux for about a year. Until AFHQ and its air, sea, and land component commands settled into a steady routine, it was difficult for everyone else to define their niches. Even when a localized consensus started to emerge, any change among the key players opened the possibility of having to return to old arguments. Because the U.S. Army refused to take this on formally and rewrite its doctrine accordingly, each theater evolved independently. Newly assigned staff officers had to adjust to inconsistencies among doctrine, past education, and experience gained while serving with other units with no recommended baseline to follow. By the summer of 1943 AFHQ had worked out these various complexities, but this learning did not carry over to SHAEF and ETOUSA, who had to renegotiate this process over a seven-month window in 1944.

In contrast, British doctrine did not call for a stand-alone army theater headquarters for each of the geographical combat zones. The British already had joint headquarters for each theater to synchronize the three services and those sustainment elements assigned to the regional base infrastructure; and armies and army groups exercised control over the associated L of C headquarters and its subordinate service units. The only new variable for the British was the introduction of a coalition partner, resulting in a few modifications to the organizational structure of the joint-combined headquarters and the need to figure out how to split up logistics between unique and common-use items. As a result, there was relatively little confusion or argument among British forces assigned to AFHQ or SHAEF about their responsibilities and authority relative to one another. The attachment of U.S. units to U.K. commands added the occasional wrinkle, but internally the British knew exactly who was responsible for what within each staff and at each echelon of the chain of command.

Neither the U.S. nor U.K. militaries had a perfect understanding of the best way to manage theater logistics and command and control in late 1942, especially while operating side by side. This placed a premium value on the ability to extract, validate, and propagate lessons from ongoing operations to ensure that unengaged headquarters could refine their procedures before being committed to combat. This goal proved to be much more complex and difficult to accomplish than the leaders involved had anticipated. Both countries put a lot of effort and resources into the task, but with mixed results. Combat units working at the tactical level seemed to learn quickly, as did operational headquarters serving in active theaters. The British benefited from a historical tradition that demanded lessons-learned assessments be completed at the highest levels of the organization both during and immediately after a campaign. The U.S. system prioritized the extraction of lessons that could be used to reorient the training base and had a parallel system designed to capture a historical perspective of campaigns; but it struggled to critically assess the performance of service units and higher-level headquarters. Neither country felt compelled to expend the resources required to substantially update or expand the doctrine that covered these topics. As a result of these trends, hard-won experience did not transfer easily to other, quieter theaters. Despite the creation of the Joint Q-Course and the dispatch of numerous observation teams to North Africa throughout 1943, ETOUSA and SOS were still extremely inexperienced organizations by July 1944, poorly organized and prepared to manage their dwindling portfolio on the eve of activation of the COMZ in France.

ETOUSA's experience illustrated the difficulty associated with executing one mission while trying to prepare for a second role. SOS and, to a lesser extent, ETOUSA found themselves overwhelmed executing Bolero, with little energy left to plan and prepare for Roundup, especially during the period when the projected date of the invasion remained in flux.

This was similar to the problem faced by AFHQ in the spring of 1943, when current operations interfered with the simultaneous preparation of the invasion of Sicily. It suggested a pattern -- that only the most mature and well-resourced headquarters were capable of adequately managing one campaign while also planning and organizing for the next one. In the case of ETOUSA and SOS, they were barely keeping their heads above water with Bolero in the early summer of 1943, which drove Devers to seek Marshall's help in establishing new organizations to plan, prepare for, and create logistical programs to support the invasion of France. Rather than taking ownership of the process and demonstrating that he was up to the challenge of the operational planning role that doctrine and Somervell's construct demanded, Lee allowed others to encroach on the one activity that would have forced his command to think through the challenges linked to its projected role in combat. Once Lee surrendered authority over planning for sustainment at the operational level, the associated task of integrating maneuver and logistics activities soon followed, first delegated to 21st Army Group and its attached liaison team from FUSAG, and then SHAEF by mid-fall 1944. By D-Day, Lee's role had been simplified to managing the communications zone, and senior leaders within the ASF, SHAEF, and FUSAG wondered if he was even capable of this reduced function. It was suggested, both during and soon after the war, not only that Lee had the resources required to lead the operational logistical planning effort while running the base in the U.K., but also that he was either incapable of or not motivated to do so. Whatever the reason, the coordinating staff at COMZ and the technical special staff at ETOUSA were not grounded in the technical and procedural details associated with the theater sustainment mission under combat conditions, and they struggled to adapt under the most challenging conditions imaginable during the breakout and pursuit across France.

Reaching an accurate historical consensus about exactly what drove Allied decision-making and the influence of operational-level logistics on those choices, both in North Africa and France, had been subsequently complicated by the deliberate introduction of sanitized narratives and a whitewashing of some of the personal friction that developed during the war. Some of this process of sanitization was deliberate, and some was accidental. Finer details got oversimplified as they transited up the chain of command, and some officers honestly forgot the sequence of events that occurred during particularly stressful stretches of time. Some officers and organizations put little effort into capturing accurate records, or else they did not establish forcing functions to trigger the lessons-learned process. Often the emotional element was deliberately filtered out of the narrative. During exceptionally stressful times officers tended to record their frustrations and candid appraisals of their fellows, but the harsher comments tended to remain in personal diaries and not transfer over into official histories written after the war.

Eisenhower had learned his lesson from the criticism he faced in January 1943 and took proactive measures to capture his version of events in January 1945, attempting to control the narrative in future historical surveys. One detects a careful manipulation and presentation of the facts designed to justify decisions taken by SHAEF and to validate the performance of ETOUSA while avoiding the temptation to fault any external actors for perceived mistakes. Eisenhower justified the various decisions he had made, and he took credit for a few decisions that he claimed time had shown to be the right calls (such as Anvil and the transportation plan). But he refrained from blaming Lee or Montgomery for his logistical problems. SHAEF's official position was that all had done their best under very trying conditions. Eisenhower was not interested in anyone digging into the details surrounding Montgomery's foot-dragging in opening Antwerp or Lee's failure to provide better support, especially since Smith and Gale had

repeatedly pointed out problems with COMZ. After the battle in the Ardennes everything had generally worked out in his favor, and Eisenhower did not want to air his dirty laundry with the Combined Chiefs of Staff and their political masters. This careful shaping of the narrative emerging from SHAEF continued during the creation of the USFET General Board reports and the early versions of the Green Books focused on European operations.

As time passed after the war, it became harder and harder for any one historian to piece together a holistic appreciation of exactly what had happened, much less figure out why some mistakes had been made and how similar mistakes were avoided by other organizations or in different campaigns. The process used to create the General Board reports and the official Army history of World War Two compartmentalized a complex, interrelated web of activities into neat bins divided up by windows of time, geographical regions, and functional responsibilities. Witnesses intuitively sensed that SHAEF's command structure virtually preordained that a series of problems would emerge in synchronization and coordination and that something had gone fundamentally wrong with the theater logistics system around October. But no one seemed capable of convincingly describing what mistakes had occurred, why they had not been anticipated or fixed, and if realistic alternatives even existed. The scope of the problem seemed to be too large for any one participant to piece together, and the early disinformation campaign orchestrated at SHAEF made it even more difficult to do so. Poor record keeping at AFHQ, ETOUSA, and SOS during the first few months of their existence did not help matters. Gale recorded in frustration in mid-February 1943: "The filing system in this office on the American side is paralytic. You can never find [a] record of anything."¹ The passage of nearly eight

¹ Gale Official War Diary, 16 Feb 43, Gale Papers, II/1-13, Liddell Hart Center, King's College. The British eventually taught the Americans their system, and recording keeping at AFHQ and then SHAEF was excellent after around May 1943. This was not the case with their U.S., administratively-focused, subordinate commands.

decades has not made the records maintained by AFHQ, ETOUSA, and Lee's headquarters more complete or more accessible. Only by piecing together bits and pieces pulled from the USFET General Board reports, the U.S. Army official history of the war, and similar volumes published by the British War Office can one reconstruct a narrative of the technical failures of COMZ, the entwined nature of logistics and maneuver, and comparative cases illustrating different methods that might have produced better results.

What eventually emerges is an appreciation for just how long it took to realize that ETOUSA had fundamental weaknesses that placed the Allied effort in Europe at risk. Obviously, the logistical collapse that occurred between late August and October was not predetermined. Decisions were made across a two-year span that eventually created the almost insurmountable challenges faced by COMZ during the pursuit east of the Seine. The real insight offered by examining this evolution over its entire history is the appreciation for the time-sensitive nature of strategic decision-making it affords. ETOUSA's range of options with which to respond to the crisis in transportation and logistics in the theater had narrowed to a razor's edge by early August 1944. Relief could only be provided if someone convinced SHAEF to put all their effort into a few focused thrusts. If the logisticians could not convince the fighting generals to narrow their objectives, then all that was left was maximizing the capacity of the transportation that was available, including the rapid restoration of rail service, and ruthlessly prioritizing what got shipped to the continent and passed along to the front. There was no time to add more resources, reorganize the staff, or enact new procedures under the circumstances that COMZ faced in August 1944. In the summer of 1943 Devers and Lee realized that they were running out of time to shape the strategic and operational range of options that would be available to solve the challenges in maneuver and logistics presented by Roundup. If either

leader wanted to radically change the major variables that would frame what was physically possible in France in the summer of 1944, they had to act soon. Working twelve months prior to the invasion, ETOUSA could conceivably have included a higher percentage of service and transportation troops relative to air and ground combat formations. SOS might have been able to study, modify, and practice the British requisition and distribution system so that their methods could work under the structure favored by the U.S. Army. The experiences of the 18th and 21st Army Groups strongly suggested that the British had figured out a system to provide logistical support across continental distances during a mobile campaign. Lee might have updated and refined the consumption estimates that were used to inform long-range logistics planning, and he might have convinced the ASF to make them the universal standard for the U.S. Army. This study has illuminated all of the different ways that the U.S. Army and SHAEF might have simplified the challenges faced by COMZ during the pursuit, some of which could have been transferred wholesale from the successful processes developed by similar commands already engaged in combat. But almost all of those options demanded long lead times to be identified, to build a consensus for their implementation, and to introduce to the field through retraining, and finally allowing refinement under local conditions and in reaction to the operating preferences of key personalities.

These conditions were in short supply because the day-to-day demands of the war got in the way and because extracting and sharing valid lessons learned is difficult under the best circumstances. The U.S. and British armies learned and got better throughout the war, but they did so at different speeds. The pace of the learning process varied across different units, functional specialties, and theaters. As a result, SHAEF consisted of a group of subordinate organizations with a wide range of competencies and combat experience, an unevenness in

capabilities that was replicated at each level of the chain of command down to the smallest tactical units. In August 1944 SHAEF was only as strong as its weakest link, and for about three months that was LTG John Lee's COMZ.

Smith and Gale suspected that it was the case by early August, and they knew it by mid-September, but it was too late to fix the issue before it hobbled the pursuit. Montgomery realized that one way to mitigate this problem was to prioritize one multi-army thrust while stopping the others, but he could not effectively communicate this idea to Eisenhower and SHAEF in the face of rosy logistical projections coming from Bradley and Lee in mid-September. After he failed to convince Eisenhower to support his approach, Montgomery persisted in trying to breach the Rhine before the German Army could revive itself rather than follow Eisenhower's orders to open Antwerp. By the time COMZ had learned how to synchronize the delivery of logistical support it was too late. The pursuit had culminated, and SHAEF had already decided to take over direct control of the special technical staff at ETOUSA. This in turn led to the directive that COMZ desist trying to supervise the theater distribution network and turn the task over to Ross.

The uneven experience base of the senior headquarters charged with supervising the war in France traced back to their operational histories, or those of their pre-cursors. There was significant continuity between AFHQ and SHAEF, with many of the senior officers accompanying Eisenhower, bringing their systems and connections with them. Even so, SHAEF had to integrate new personnel from the COSSAC planning team and forge relationships with a host of new subordinate headquarters. By March Eisenhower had wrestled control over the air campaign from a number of competitors, but de facto direction over ground operations eluded his grasp until mid-October, and SHAEF found itself surprised by the incompetence shown by COMZ in September. Despite having a core of highly experienced senior officers, SHAEF did

not master its full range of required functions until late October 1944 at the earliest. NATOUSA and ETOUSA followed similar developmental arcs but with two major exceptions. NATOUSA, including its COMZ and SOS, got an eighteen-month head start in amassing combat experience, and Hughes managed to figure out how to work effectively with Smith, Gale, Larkin, Patton, and Clark. NATOUSA and Hughes suffered through the same growing pains as ETOUSA and Lee, but they did so from February to May 1943 under the watchful eye of Gale, Alexander, and the administrative staff at 18th Army Group during a pause in the North African campaign. Both 21st and 6th Army Groups were built around a core of highly effective officers who had served in Africa and Italy, joined by less experienced staff officers, army and corps headquarters, and service units generated by the training base. FUSAG, or 12th Army Group, included a mixed bag of staff officers and units, with less combat experience than the other two army groups and SHAEF, but more than ETOUSA/SOS. Many of the key staff officers at FUSAG also benefited from their multi-month apprenticeship under 21st Army Group and their early introduction to the fight in Normandy. By early August they had a two-month head start on COMZ. The only complete rookies were the special staff at ETOUSA and COMZ, and at least the technical sections at ETOUSA had been deeply immersed in the operational planning for Roundup and Overlord.

The indirect role of the ASF and AAF on the campaign in France during the fall of 1944 should not be ignored. Somervell was largely responsible for implementing a doctrinal model that centralized all logistical planning and control under the theater SOS, thereby partially undermining the authority of ETOUSA at its birth. The ASF was also responsible for a nine-month delay in acknowledging the need for heavy trucks and tractor-trailer combinations in the U.S. Army. Finally, senior leaders from ASF formally inspected Lee's organization twice,

identifying extensive internal and external problems in the process. And yet Somervell and Lutes did very little to help ETOUSA solve the systemic and procedural framework they operated under. Many of the problems Lee first faced in late 1942 could have been mitigated if not eliminated by spring 1944 through revised doctrine, officially endorsed consumption planning figures that integrated the experience gained in the Mediterranean, and improved training of service units and officers back in the United States. General “Hap” Arnold also undermined the authority of ETOUSA at a critical stage in its development, and the AAF seemed determined to obscure the value of massed aerial resupply, both during and immediately after the war, emphasizing instead airborne maneuver and strategic bombing.² ASF, SHAEF, and AEF had incentives to obscure the facts behind the timeline associated with fielding heavy trucks and establishing reliable and efficient massed aerial resupply. ASF wasted almost six months arguing about the obvious advantages of more capable tractor-trailer combinations rather than accelerating new production. SHAEF and AEF published two sets of instructions during the spring of 1944 that were designed to iron out exactly how to coordinate aerial resupply through CATOR. But when the first call for massed support arrived in early August, SHAEF’s preliminary groundwork proved insufficient, and Moses and 12th Army Group had to step in and rewrite the SOP themselves.

Similarly, Lee, Ross, and Stratton had incentives to obscure the inefficiency of the U.S. requisition and distribution system between August and October, blaming problems on external

² The value of both of these missions was validated by the U.S. Army after the war, as was air superiority, tactical air support, and battlefield interdiction. It is not a question about the importance of bombing, aerial maneuver, et cetera, but the exclusion of regular aerial resupply from that list. If the value of any of these roles was called into question by war-time experience, it was the practicality of airborne drops during mobile operations or throughout operational distances behind enemy lines. Officers recognized the tactical advantages offered by aerial envelopment, but questioned the opportunity cost of diverting C47s and the risk of mass casualties to the airborne force.

factors and instead emphasizing the logistical resurgence achieved in November and December. COMZ's operational failure is exposed by comparing it with the performance by 21st Army Group in September and October and also by noting SHAEF's decision to assume a number of COMZ's duties beginning in October. Despite facing similar challenges and a distribution crisis of their own during the second half of September, 21st Army Group never ran out of critical supplies in the lead divisions and had completely recovered its logistical balance by the first days of October. Notwithstanding assurances that a solution to the transportation problem was just around the corner, the situation within ETOUSA got progressively worse throughout the same month, and it was only sorted out by early December, just before the German counter-offensive in the Ardennes. In mid-September Gale, Lee, and Ross honestly believed there were indicators that the supply and transportation situation in the U.S. sector was improving, but after the war there was a deliberate effort to cover up the scope of the break down that was slowly revealed in the second half of September and October. By late October it was obvious that COMZ had let SHAEF and the army groups down.

Despite expending a lot of energy on the topic in the eighteen months prior to landing in France, Lee and the staff at SOS were not prepared to run theater-level logistics under combat conditions, and this shortfall significantly restricted Allied options that fall. But responsibility for the premature culmination of the Allied pursuit could hardly be laid exclusively at the feet of COMZ. Based on rumblings detected in April and May, logisticians at SHAEF might have anticipated the problem and been better prepared to pick up some of the load, or tried to simplify the problem by convincing maneuver commanders to make tough decisions about priorities and then stick to them. Luckily for SHAEF, they had already assumed much of the burden for planning logistical support at the operational level, and integrating sustainment with maneuver,

by early May. MG Crawford, the SHAEF G-4, had mounted one last, and ultimately unsuccessful, attack to gain control over the special staff at ETOUSA and the associated responsibility to coordinate with the ASF in early May. Crawford's recommendation to move this responsibility to SHAEF was rejected by Eisenhower, who seemed uninterested in creating a fully resourced and independent ETOUSA or moving the duties handled by COMZ up to joint-combined headquarters. Montgomery and Gale tried to ensure that Eisenhower selected and sequenced his maneuver objectives cognizant of the limitations and requirements of the theater supply system. But these two British officers ultimately failed when Bradley and Lee fed Eisenhower what he wanted to hear, overturning the hard-won decision of 10 September to give priority to Montgomery's dual thrust to reach the Rhine.³

A number of contemporary witnesses believed that one of the simplest solutions to the U.S. command and control dilemma that emerged in the fall would have been for Eisenhower to subordinate Lee and the COMZ to Bradley early in the preparation process for Overlord. In the spring of 1944 Eisenhower did not consider this step necessary; in the fall he chose to address shortfalls in COMZ's performance by shifting the last of their independent functions over to SHAEF. By May 1944 Lee's role had been greatly simplified when compared to the power he had held back in the fall of 1943. During Overlord COMZ would supervise the requisition and distribution system in the theater rear area, coordinating with ASF as required to accomplish this reduced responsibility. Direction over the operational aspects of logistics, to include planning the expansion of the transportation network, assigning service troops to subordinate commands, and integrating the flow of supplies with the overall campaign concept, had passed to Gale and

³ Composed of the one-two punch of Market Garden a supporting attack by 1st U.S. Army designed to capture Aachen and then advance on Köln.

his team at SHAEF. Eisenhower, in his role as both the SHAEF and ETOUSA commander, would supervise Lee personally, aided by Smith and Gale. In hindsight this was perhaps a mistake, but it was a risk Eisenhower was comfortable taking for the duration of Overlord. Subordinating Lee to Bradley may or may not have provided the focus and incentive required to get COMZ ready for combat, but it was a technique that worked well to ensure effective synchronization of sustainment and maneuver operations in 21st and 6th Army Groups. Without more direct supervision by a combat-centric commander, Lee consistently prioritized executing Bolero at the expense of planning and preparing for Roundup. Despite repeated efforts meant to create a learning environment at SOS, Lee struggled to prepare his command to master the conditions they would confront in France during the pursuit. Perhaps it was impossible to execute Bolero while simultaneously preparing for Roundup with the number and quality of officers assigned to ETOUSA and SOS throughout 1943, but one suspects Lee's personality and priorities were major factors as well. In early August SHAEF turned theater logistics over to a neophyte organization under the most trying conditions imaginable, and when COMZ failed it should have come as a surprise to no one.

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Chapter 9 - Abbreviations

| | |
|----------------|--|
| AAA | Anti-Aircraft Artillery |
| AAF | Army Air Forces |
| AAR | After Action Review |
| ABS | Atlantic Base Section |
| ADSEC | Advanced Section |
| AEF | American Expeditionary Forces |
| AF | Air Force |
| AG | Army Group |
| AGF | Army Group Forces |
| ASF | Army Service Forces |
| AEAF | Allied Expeditionary Air Force |
| AFHQ | Allied Forces Headquarters |
| AR | Army |
| BR | British |
| CAN | Canadian |
| CAO | Chief Administrative Officer |
| CATOR | Combined Air Transport Operations Room |
| CCS | Combined Chiefs of Staff |
| CGSC/S | Command and General Staff College/School |
| COE | Cab Over Engine |
| COMZ | Communications Zone |
| COSSAC | Chief of Staff to Supreme Allied Commander |
| CP | Command Post |
| CW | Chemical Warfare |
| DQMG | Deputy Quartermaster General |
| ENG | Engineer Corps |
| ETOUSA | European Theater of Operations, U.S. Army |
| FA | Field Artillery |
| FECZ | Forward Echelon, Communications Zone |
| FUSA / G | First U.S. Army / Group |
| FM | Field Manual |
| FMC | Field Maintenance Centres |
| FSR | Field Service Regulations |
| GHQ | General Headquarters |
| GT / MT | General Transport / Motor Transport |
| HE | High Explosive |
| HQ | Headquarters |
| HTD | Highway Transportation Division |
| JPS | Joint Plans Section |
| LOC/LoC/L of C | Line of Communications |
| LPS | Logistics Plans Section |
| LNO | Liaison Officer |
| LST | Landing Ship Tank |
| MBS | Mediterranean Base Section |

| | |
|------------|--|
| MG(A) | Major General, Administration |
| MP | Military Police |
| MPS | Military Pipeline Service |
| MRS | Military Rail Service |
| MTB | Motor Transport Brigade |
| MTC | Motor Transport Corps |
| MTS | Motor Transport Service |
| MTOUSA | Mediterranean Theater of Operations, U.S. Army |
| M&T | Movement and Transportation |
| NATOUSA | North Africa Theater of Operations, U.S. Army |
| OCOT | Office of the Chief of Transportation, SOS, ETOUSA |
| ORD | Ordnance Service |
| ORR | Operational Readiness Rate |
| POL | Petroleum, Oil, and Lubricants |
| PROCO | Projects for a Continental Operation |
| Q / QM (C) | Quartermaster (Corps) |
| REME | Royal Electrical and Mechanical Engineers |
| RAF | Royal Air Force |
| RMA | Rear Maintenance Area |
| SOP | Standing Operating Procedure |
| SOS | Service of Supply |
| SPOBS | U.S. Special Observer Mission |
| TC | Transportation Corps |
| TM | Technical Manual |
| SHAEF | Supreme Headquarters Allied Expeditionary Force |
| USAFBI | U.S. Army Forces in the British Isles |
| USAFIME | U.S. Army Forces in the Middle East |
| USFET | U.S. Forces European Theater |
| USSTAF | U.S. Strategic Air Force |
| WD | War Department |
| WO | War Office |

Chapter 10 - Locations of Key Allied Headquarters

| Organization | Location | Date Arrived | Date Departed |
|-------------------|---|----------------------------------|-----------------------|
| ETOUSA | Grosvenor Square (Embassy) | 8 Jun 42 (from USAFBI) | |
| (COMZ) | Valognes (SE of Cherbourg) | 1 Sept 44 | |
| (COMZ) | Paris | 14 Sep 44 | |
| | | | |
| SOS | Grosvenor then Cheltenham Norfolk House footprint | | |
| SOS 2 | #2 Mansfield Place – Hampstead London. well north most HQs | | |
| ADSEC 1 | Bristol (collocated w/ FUSA) | Dec 43 (directed by COSSAC) | |
| | Normandy, Le Mans, Étampes, Reims | | |
| FECZ | John Lewis Bldg on Oxford Street | 7 Feb 44 / | |
| | | | |
| AFHQ | Norfolk House (St. James Square) | 22 August 42 | |
| | Algiers (St. George Hotel) | 10 Nov 42 | |
| | | | |
| SHAEF A | Norfolk House | 16 Jan 44 (from COSSAC) | March? |
| SHAEF 1 / Rear | Bushy Park Kingston-on-Thames (between Heathrow and London, to the south) -Bryanston Square (London)(near Selfridges) | March 44 -10 Oct | Elements Aug & Sep |
| Sharpner 1 | Portsmouth w/21 AG | Apr/May? (1 July up to 1400) | Starts 28 Aug |
| “Shellburst” | Tournières (12 miles SW Bayeux) | 7 Aug | 15 Sep |
| Sharpner 2 | Jullouville / Granville (Avranches) ⁴ | Before 28 Aug | 15 Sep |
| SHAEF 2 | Versailles (Trianon Place Hotel) | 15 Sep (opens 20 Sep) – 5 Oct | |
| SHAEF Fwd | Gueux (7m NW Reims) | 19 Sep | 17 Feb 45 |
| 21 AG | St. Paul’s School (London) Gen Bernard Paget, cdr Home Forces. Moved to ME cmd when Wilson took over AFHQ | Jul 43 | |
| 21AG | Portsmouth | May 44 | |
| AEAF | Stanmore | June 43 (Aug L-M selected) | |
| Navy | Portsmouth | Aug 43 (Ramsey in Oct) | |

⁴ At one-point SHAEF was split between Bushy Park, Bayeux, and Avranches. All continental sections were united at Versailles by late September.

| | | | |
|-------|---|---------|--|
| CATOR | Stanmore (AEAF) | Apr 44? | |
| FUSAG | Bryanston Square (NE corner of Hyde Park, on a line with Grosvenor and then Norfolk House running NNW to SSE) | Sep 43? | |
| FUSA | Bristol | Sep 43? | |