

Chapter 2

The Americans Embark

Abstract When the United States declared war on Germany in April 1917, it was not prepared. In this chapter we discuss the creation of the American Expeditionary Force (AEF) and the reorganization of the American Army into a modern fighting force. With the advent of the first draft since the Civil War, the Army had to prepare for upwards of 2 million new men. This meant training camps, organizing transport, and raiding the existing Army divisions for officers and noncoms to train the new draftees. The chapter also talks about the creation of the first modern military intelligence units in the US Army, including the creation by Herbert Yardley of the first permanent cryptologic unit in the service.

2.1 America Stumbles into War

On April 6, 1917, the day war was declared, the United States was woefully unprepared to wage a modern war. Since the end of the American Civil War in 1865, the US Army had primarily done three things, police the South during Reconstruction, wage a one-sided war against the Native Americans with the ultimate purpose of moving them onto reservations, and patrol the US-Mexican border to prevent Mexican bandits and revolutionaries from crossing. The Army had fought one 3-month war against Spain in Cuba and the Philippines in 1898 and had put down an insurrection in the Philippines in 1899–1902. It had also invaded Mexico twice, once to occupy Veracruz over a fabricated insult in 1915, and a year later in the so-called Punitive Expedition, led by General John J. “Black Jack” Pershing in retaliation for an incursion into New Mexico by Mexican revolutionaries that led to several American deaths.

The Punitive Expedition, in particular, showed the many shortcomings of the existing American Army forces. In 1917 the Army, Navy, and Marines had fewer than 300 obsolete aircraft, none of them fit for combat. The Army had very few machine guns, half a dozen trucks, and few modern artillery pieces. The size of the regular US Army in April 1917 was about 128,000. The second leg of the US forces, the National Guard, had approximately 132,000 men in April of the same year, while the US Marine Corps had about 15,500 for a total combined force of around 275,000 (Ayres 1919, pp. 13–15). At that same time, the English had between 1.5 and 2 million men in the field, the French around 2 million, and the Germans nearly

3 million on the Western Front. In April 1917 the Allies were in dire straits. Despite universal conscription the Allied Powers had suffered so many casualties in the nearly 3 years of conflict that they were having difficulty filling up their frontline forces with replacements. The long stretches in the trenches and the never-ending and fruitless offensives meant the troops were getting restless, desperate, and depressed. Later in 1917, a number of French and German regiments would mutiny and just refuse to fight. The Allied commanders pressured the Americans to send troops as soon as possible. The United States, despite a population of around 107 million, clearly could not field an army in the millions purely by volunteers. A new draft was needed.

The first selective service act since the Civil War was passed into law on May 19, 1917, and the first draft was held on June 5, 1917. After amendments, all men between the ages of 18 and 45 inclusive were eligible and had to register for the draft. During the 19 months of American participation in the war, 24,234,021 men registered for the draft, and 2,800,000 were inducted into the military (Ayres 1919, pp. 17–19). The draft was generally accepted in World War I (as opposed to the Civil War) because this time, the draft boards were local and were run by civilians, local citizens, not military men. There were also fewer exemptions, and men were not allowed to buy their way out of service or use substitutes, as was possible during the Civil War.

Training hundreds of thousands of new draftees took many of the noncommissioned officers away from the Regular Army. The noncoms were the only ones with sufficient experience to give the initial instruction to the draftees and to retrain the National Guard troops. Housing the new enlisted men was the first and most basic problem. A newly organized Cantonment Division began selecting sites and contractors to build brand new training camps for 16 National Army divisions and an equal number of National Guard divisions. In an extraordinary feat of organization and engineering, eight new training camps were two-thirds built and ready to house 400,000 draftees and National Guard soldiers by September 1917 (Hallas 2000, p. 22). Other supplies were also virtually nonexistent. “The flood of troops strained the supply of available equipment. A shortage of rifles saw some recruits drilling with wooden sticks. Hand grenades, machine guns, artillery pieces were all in short supply” (Hallas 2000, p. 24).

For tactical purposes, American forces were generally organized into divisions. An American division had roughly 27,000 enlisted men and 1,000 officers, about twice the size of the British and French divisions. To accommodate the expected number of draftees, the Regular Army would be expanded by volunteers and some draftees and would be divided into 20 divisions, numbered 1 to 20. The National Guard would provide 16 divisions, numbered from 26 to 42. The third leg, called the National Army, would be composed of an additional 18 divisions, numbered 76 to 93. Note that there are deliberate gaps in the numbering and some numbers are skipped. This was because the original War Department plan for the Army was to have 80 divisions in France by early 1919 and 100 divisions there by the end of the year. These distinctions (Regular Army, National Army, National Guard) were eliminated on August 7, 1918 in favor of a single, unified organization.

The first American forces, elements of the US 1st Division (later called the Big Red One), arrived in France in June 1917, preceded by General Pershing and his headquarters staff (Fig. 2.1). Initially, movement across the Atlantic was slow. The



Fig. 2.1 General John J. Pershing in 1917 (*Public Domain*. Reproduction Number: LC-DIG-ggbain-21134 (digital file from original negative); Rights Advisory: No known restrictions on publication.; Call Number: LC-B2- 3764-8 [P&P]; Repository: Library of Congress Prints and Photographs Division Washington, DC, USA <http://hdl.loc.gov/loc.pnp/pp.print>)

26th National Guard Division (the “Yankee” Division) sailed for France in September, as did the 42nd “Rainbow” Division. By March 1918, there were 318,000 American soldiers in France (Keegan 1999, p. 372). By April 1918, there were seven of the oversized American divisions in France, the equivalent of 14 British, French, or German divisions. The number would have been higher if not for the lack of transport ships to get the troops across the Atlantic. In February the British agreed to release a large number of transport ships for use by the Americans, and the number of American troops shipped to France accelerated. By June 1918 the number of American troops topped 650,000, and new troops were arriving at a rate of nearly 10,000 per day (Eisenhower 2001, p. 99). By August 1918, 1,300,000 men had arrived, and more were arriving at a rate of over 250,000 per month (Keegan 1999, p. 373). By November 1918, there were 42 American divisions in France, plus men in the Services of Supply bringing the total enlisted strength of the US ground forces to over 4 million, of whom 3 million were in France and the rest being trained in the United States.

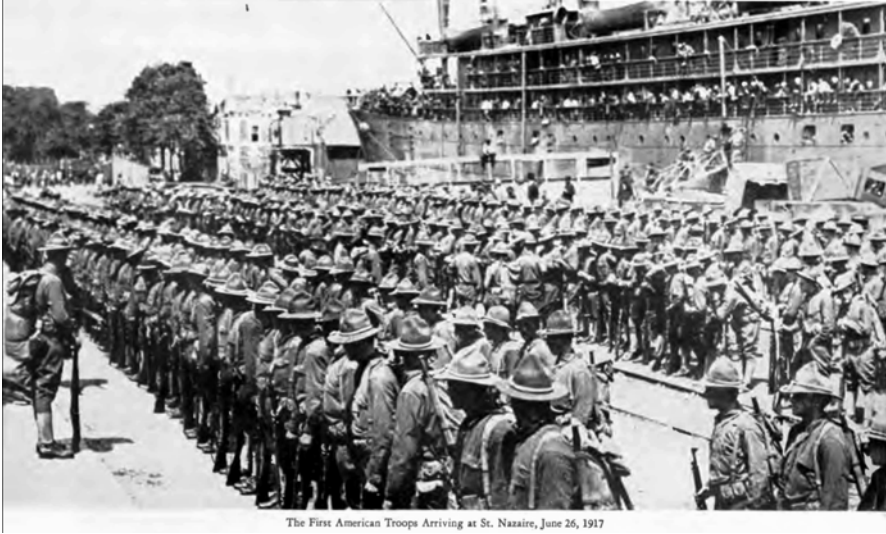
As far as equipment was concerned, the United States was also deficient in 1917 and was forced to buy and borrow British and French arms, planes, tanks, and artillery until American industry ramped up in late 1918. By the end of 1918, the United States had 2,698 planes in service, of which 667, less than one-fourth, were of American manufacture (Ayres 1919, pp. 85–88). Of the almost 3,500 artillery pieces the American Expeditionary Force (AEF) used in France, only 477 were of American manufacture, and only 130 of those were used in combat (Ayres 1919, pp. 80–81). Despite possessing the world’s largest automotive industry, the United States had to rely on French tanks for the operations of the AEF’s Tank Corps, and in some instances British and French tank battalions supported US troops. 51,544 US-made trucks were sent to France, and another 50,000 or so trucks were purchased from the British and French. Of the American-made trucks, about 7600 were

“Liberty” trucks, the first standardized design for a military vehicle. All the Liberty trucks were designed by the War Department and had standardized parts and came in two sizes. The Standard A was a 1½ ton truck and the Standard B was either a 3 or 5 ton truck, both with a maximum speed of about 15 mph.¹ These trucks largely replaced horses, which were also in short supply, for short-haul work in getting supplies from railheads to the trenches; they were also used in the three American designated ports of St. Nazaire, Bordeaux, and La Pallice to move cargo from supply ships to the railheads (Ayres 1919, p. 62). American industry did a better job producing the infantry weapons. Barely 100,000 rifles were on hand for the Army’s use when the war broke out; most of the American arms manufacturers were under contract to make arms for Britain and France. Two Army arsenals were producing the Model 1903 Springfield rifle and stepped up production during the war. Three private companies were producing the Lee-Enfield rifle for the British, and when they completed their contracts, they began turning out those rifles modified for the Springfield .30-06 cartridge, the standard American rifle ammunition. Since the Army had not purchased a large number of machine guns in the prewar period, the AEF was equipped almost exclusively with French Chauchat light machine guns until July 1918. Unfortunately for the Americans, the Chauchat was notoriously prone to misfiring because of dust and dirt and had a tendency to overheat easily. American industry, however, was able to come up with a new, more robust design for a light machine gun and by the end of the war had produced excellent weapons while ramping up production significantly. Beginning in July 1918, American units were being armed with Browning M1917 water-cooled machine guns and the soon to be famous M1918 Browning Automatic Rifle (BAR). The main advantages of the Brownings were their simplicity, and for the BAR, it’s relatively lightweight. Both machine guns also used standard .30-06 Springfield rifle ammunition, greatly simplifying supply. By the end of the war, three American manufacturers had delivered 52,000 BARs (Ayres 1919, pp. 63–72).

2.2 The Americans Arrive

The American commander, Major General John J. Pershing, and his staff reached France in June 1917. The first American troops, the 16th Infantry Regiment of the US 1st Division, also arrived late in June 1917 (Fig. 2.2). The French were so desperate to see the Americans that a parade of freshly arrived American troops was organized through Paris on July 4, 1917. The parade and the 2nd Battalion, 16th Infantry, wound down the Champs-Élysées, over to Napoleon’s tomb at Les Invalides and then across to the tomb of the Marquis de Lafayette in Picpus Cemetery. That is where a Lieutenant Colonel of the Quartermaster Corps, Charles E. Stanton, put the cap on the day with an impassioned “America has joined forces with the Allied Powers, and what we have of blood and treasure are yours. Therefore

¹ See https://en.wikipedia.org/wiki/Liberty_truck accessed on August 18, 2015.



The First American Troops Arriving at St. Nazaire, June 26, 1917

Fig. 2.2 Soldiers of the American 1st Division arriving at the port of St. Nazaires, June 1917 (Public Domain. Used with permission of the American Battlefields Monuments Commission (ABMC) https://www.abmc.gov/sites/default/files/publications/AABEFINAL_Blue_Book.pdf)

it is that with loving pride we drape the colors in tribute of respect to this citizen of your great republic. And here and now, in the presence of the illustrious dead, we pledge our hearts and our honor in carrying this war to a successful issue. Lafayette, we are here!” (Coffman 1968, pp. 3–4).

The Allies were completely unimpressed with the American Army and thought that it would take too long for the Americans to organize and train themselves to become an effective modern fighting force. What the Allies wanted was basically untrained bodies that they could train, use as replacements for their own troops, and rush to the front lines to be cannon fodder (Coffman 1968, pp. 8–11; Eisenhower 2001, p. 12 and 16–17).

What the Americans wanted was a full partnership. Wilson and Pershing insisted on an independent American Army with its own section of the front and the ability to act independently or jointly with other Allied forces. What they eventually got was a compromise between these two positions, with an independent American Army having its own sector and also several American divisions integrated into British and French forces. By the late fall of 1917, four American divisions, two Regular Army divisions, the 1st (the *Big Red One*) and the 2nd, and two National Guard divisions, the 26th (*Yankee Division*) and the 42nd (*Rainbow Division*), were in France. Initial training for all divisions was in the United States and took 6 months, followed by advanced combat training in France by British and French instructors for an average of 2 months (Ayres 1919, p. 25). However, by spring 1918 the Allies were desperate for American help so training in the United States was shortened by about half to get soldiers over to France. This reduced training and particularly the lack of experience of the officer corps showed itself later in American behavior on the battlefield.

The first American troops, from the 1st Division (Regular Army), eased into the front lines east of Nancy in mid-October 1917. The 26th and 42nd Divisions followed the 1st in February 1918, and the 2nd Division moved up in March 1918 (Hallas 2000, p. 61). Typically Americans would take over from Allied troops in a “quiet” sector where there was little combat or movement for about a month before being moved into a more active sector of the front. The Americans did not have to wait long for the first casualties. The first American was wounded on October 23rd, and three American soldiers became the first killed in action during a German trench raid on November 3, 1917. Throughout the rest of the fall of 1917 and the winter of 1918, the Americans rotated in and out of the trenches and learned first the tedium and then the terror of being in the front lines. Throughout this period the Americans participated in trench raids and small actions in support of their French comrades. As the Americans began to be involved in more combat operations, the casualties started to mount (Hallas 2000, p. 69).

The relative calm of the winter of 1917–1918 came to a close quickly. The Russians had collapsed and in February 1917 the Czar abdicated. The Russian Provisional (Kerensky) government took over in March 1917 and declared that it would continue the war under its entente obligations. The Russian populace and, increasingly, the army were exhausted by the war and wanted nothing more than peace. The Germans allowed Vladimir Lenin to cross Germany from his exile in Switzerland in April 1917 in order to organize the workers’ committees (Soviets) and work against the Provisional government.

On July 1, 1917, the Russians and Romanians launched a major offensive, known as the Kerensky Offensive, against the combined German-Austrian forces in the Western Ukraine. While the Austrians fell back, the Germans held and by July 23rd the Russian advance had collapsed. The Germans and Austrians then counterattacked and threw the Russians a further 250 km back into Russia. This disaster was the last effective Russian military action of the war. The Russian Army effectively disintegrated, and further German advances were only limited by their having overextended their lines of supply. The Kerensky Offensive was the last straw for most of the Russian populace, and anti-government riots began in major cities. The Bolsheviks took over Petrograd (St. Petersburg) and arrested the Provisional government leaders in early November 1917, putting in place their own soviet government. The Russians signed an Armistice on December 22nd and peace negotiations followed by the end of 1917. On March 3, 1918, the Russians and Germans signed the Treaty of Brest-Litovsk with the Russians basically capitulating to all the German demands. This freed up nearly 50 German divisions for action on the Western Front, and the Germans immediately began moving troops west² (Keegan 1999, pp. 375–381).

² See also https://en.wikipedia.org/wiki/Treaty_of_Brest-Litovsk. Accessed 18 August 2015.

2.3 American Military Intelligence Awakens

When it came to military intelligence, once again the United States was completely unprepared. At the beginning of the American entry into the war, there were exactly three Army officers trained in codes and ciphers—Parker Hitt, Frank Moorman, and Joseph Mauborgne—and, in a brilliant bit of Army wisdom, none of them were ultimately assigned to cryptographic duties (Gilbert 2012, p. 44). So in April 1917, the US Army military intelligence organization was once again starting from scratch.

Throughout the 140 years or so of the existence of the US Army prior to World War I, military intelligence had normally been a series of isolated and temporary stories of individual commanders who saw the need for knowing and understanding what the enemy was doing before battle. Beginning with George Washington commanders would create small organizations to manage communications, recruit spies, and infiltrate enemy lines to scout and gather intelligence. Amateurs who had no previous knowledge or experience with information gathering and intelligence analysis typically staffed these intelligence units. During the Revolutionary War, the War of 1812, the Mexican War, and the American Civil War, intelligence organizations would come into being and prove useful for the duration of the conflict. Once the war was over and most of the Army was demobilized, these organizations were disbanded. In 1860, just before the American Civil War, the War Department created the US Signal Corps under Major Albert J. Meyer to manage army communications. The Signal Corps was the first intelligence organization to remain in existence after the end of conflict. The US Army's Military Information Division (MID) was created in 1885 with its original function to acquire information about the armies of foreign nations. This led to the formation of the military attaché service in 1889. Military attachés were dispatched to foreign capitals, attached to the US Embassy there, and would report back to MID on military readiness and effectiveness of the host country's army. MID was charged with analyzing this data and reporting it back to the War Department. In 1903, the United States finally adopted the General Staff organization that all the other major powers had used for decades. Under this reorganization, MID was moved into the 2nd Division of the General Staff, known as G-2. This didn't last long, however. By 1908 the 2nd Division was merged into the Third Division—later called the War College Division—and MID lost its clout and its separate identity. So at the beginning of World War I in 1914, the United States, once again, had no real intelligence organization (Gilbert 2012, pp. 1–5). This state of affairs was finally rectified on May 3, 1917—nearly a month after war had been declared—when the War College Division created the Military Intelligence Section (MIS), and in June 1918 the name was changed to the Military Intelligence Division (MID) under Major Ralph Van Deman (Gilbert 2012, pp. 28–29). Van Deman, a Harvard graduate who also had both law and medical degrees, had been in the Army since 1891. He was in the first class of the Army War College in 1904 and had organized and run the Military Intelligence Division in the Philippines during the Philippine-American War (1899–1902). He was the ideal person to run the

new MIS and would become known as the “Father of American Military Intelligence” (Gilbert 2012, pp. 11–13).

Van Deman lost no time in organizing the MID. Beginning with just a couple of enlisted soldiers and some civilians, Van Deman had, by the end of 1917, an organization of several hundred soldiers and civilians and a budget of over \$1 million, modeled on the British military intelligence organization. By that time MID had five subsections: MI-1 Administration (Personnel and Office Management), MI-2 Collection and Dissemination of Foreign Intelligence, MI-3 Counterespionage (Military), MI-4 Counterespionage (Civilian), and *MI-8 Cable and Telegraph (Code and Cipher Section)*. By the end of the war, seven more sections had been added: MI-5 Military Attaches, MI-6 Translation, MI-7 Graphics (Maps), MI-9 Field Intelligence, MI-10 Censorship, MI-11 Passport and Port Control, and MI-12 Graft and Fraud (Gilbert 2012, p. 223).

On the AEF side, General Pershing also set up his staff organization along the lines of the British and French. As such, he had an Intelligence Section (G-2) headed by Major Dennis E. Nolan, a friend and contemporary of Van Deman’s but with—at the time—much less experience in intelligence. Early on Van Deman and Nolan agreed that the AEF G-2 organization and MID would remain completely separate but would share as much information as possible. MID would also be charged with training many of the intelligence officers who would become part of the AEF. MID would concentrate on counterintelligence and domestic US matters, while AEF G-2 would focus on intelligence gathering and counterintelligence in France. Over the course of the war, the two organizations would work very closely together to the point of even sharing personnel (Gilbert 2012, pp. 31–33).

In addition, while the Navy had its own Office of Naval Intelligence, its job was mainly to observe other countries building programs and fleet maneuvers. For the duration of the war, the Navy and State Departments depended on the War Department’s Military Intelligence Division (MID) to handle all interception and cryptanalysis of enemy cryptograms, including those in shorthand and in invisible ink.

As soon as the MID was set up, Van Deman began getting requests for decryptions of intercepted cablegrams, letters, and notes found on arrested aliens and Americans. Van Deman needed a cryptologic organization. Enter Herbert Yardley.

2.4 Herbert Yardley and MI-8

Herbert O. Yardley (1889–1958) was a mid-Westerner who had come to Washington in 1912 and was engaged as a code clerk at the State Department. Yardley was smart and ambitious and bored on the night shift at State. To while away the time, he started teaching himself the State Department diplomatic codes and ciphers and set himself the problem of decrypting random cablegrams that passed across his desk. Yardley quickly discovered two things. First, he was pretty adept at decrypting State Department-coded cablegrams, and second, the State Department codes and ciphers

weren't very complicated and hence not very secure. His coup was when he was able to decrypt messages sent in the private cipher system used by President Wilson and his close friend and presidential advisor Colonel Edward House. At this point, in early 1917, Yardley wrote up all his notes and conclusions about the State Department systems into a 100-page memorandum and handed the memo to his boss (Yardley 1931, pp. 21–27). While his boss wasn't exactly pleased, he did understand that Yardley had talent and some good ideas. When the United States entered the war, Yardley set himself the goal of working on cryptograms for the War Department. Little did he know that at that time, there wasn't even one person in the War Department solving enemy cryptograms. By May 1917 Yardley had worked his way up to Major Van Deman's office and made his pitch to set up a cryptanalytic bureau within MIS. Not having any other better choices (in fact, having no other choices at all), Van Deman took Yardley up on his offer, commissioned him a First Lieutenant, and set him up in charge of a new subsection of MID, MI-8 the Code and Cipher Section (Yardley 1931, pp. 34–36).

Yardley got to work setting up MI-8 starting in June 1917. He started with two clerks and an avalanche of coded messages from the Army, the Navy, and the State Department. Yardley's first job was to find people in or out of the Army who had what he called "cipher brains," that peculiar twist of mind that allowed someone to see deeply complex patterns in encrypted messages and unravel them. This was not easy at first. Yardley's real coup was to hire Dr. John Matthews Manly, head of the English Department at the University of Chicago and an amateur cryptologist. Manly was commissioned a Captain and joined MI-8 in Washington in October 1917. It turned out Manly was a terrific cryptanalyst and a good organizer so Yardley placed him in charge of the cryptanalytic section of MI-8 and made Manly his second-in-command (Yardley 1931, pp. 38–39). Manly also brought along several of his colleagues from the University of Chicago, including Dr. Edith Rickert who would also prove to be an excellent cryptanalyst. She and Manly would together solve one of the most important cryptograms that MI-8 would see during the war, the Waberski cipher message. Eventually there would be six sections within MI-8: *code and cipher solution* (headed by Manly), *code and cipher creation*, *training*, *shorthand*, *communications*, and the *secret ink laboratories* (Yardley 1931, p. 47).

Early on, one of MI-8's most essential jobs was the training of cryptanalysts for both MI-8 and the AEF, but in fact there was no training program, no curriculum or training materials, and no one to do the training. MI-8 was in quite a fix. Van Deman and Yardley were saved by an offer from a civilian, George Fabyan, who was a wealthy textile businessman interested in making a name for himself. Several years earlier he had set up what was the country's first privately funded research laboratory at his Riverbank estate in Geneva, Illinois. One of the research areas that his staff worked on at the Riverbank Laboratories was cryptography. This was primarily because Fabyan was interested in proving that Francis Bacon had written the plays of Shakespeare, and he was convinced that there was a cipher in Shakespeare's *First Folio* that would prove it (Munson 2013, pp. 93–94). So Fabyan had several people on his staff that could solve cryptograms and create the training curriculum that the Army needed. Among these were a young couple, William F. and Elizebeth Smith

Fig. 2.3 Lt. William F. Friedman in 1918 (Used with permission of the George Marshall Foundation Research Library)



Friedman, who were destined to become the most famous pair of cryptologists in American history. So, in the fall of 1917, the Army contracted with Fabyan to solve cryptograms that would be sent to Riverbank and to set up a cryptologic training program at Riverbank. William Friedman designed the curriculum and taught most of the courses. Between November 1917 and March 1918, the Riverbank school trained 78 Army officers, the majority of whom joined the AEF in France. In March 1918 MI-8 took over training and moved the cryptology school to Washington (Barker 1979, pp. 3–8). Friedman was then free to join the Army; he was commissioned as a First Lieutenant in June 1918 and was assigned to the Radio Intelligence Section of Military Intelligence in the AEF, G2-A6, under Major Frank Moorman. Friedman would rise to head the cryptanalytic Code Solution section of G2-A6 for the remainder of the war. He was demobilized in the spring of 1919 (Clark 1977) (Fig. 2.3).

So by early 1918 both the Radio Intelligence Section of the AEF and the Code and Cipher Section of MID were set up, running, and cooperating. There were seven US Army divisions in France in various stages of training, four of them already moving into the frontline trenches. Pershing's headquarters at Chaumont was set up, and the Army Services of Supply was in the process of upgrading French ports, building hundreds of miles of railroad lines, and unloading tons of supplies each day. By the early spring of 1918, the AEF was in the line and engaging in independent combat operations.

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