The Occasional Papers

Maps of The First World War:
An Illustrated Essay and List of Select Maps in The Library of Congress

Ryan J. Moore

The Occasional Papers
A Philip Lee Phillips Map Society Publication

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Foreword

The Philip Lee Phillips Map Society of the Library of Congress is a national support group that has been established to stimulate interest in the Geography and Map Division's cartographic and geographic holdings and to further develop its collections through financial donations, gifts, and bequests. The Phillips Map Society publishes a journal dedicated to the study of maps and collections held in the Division known as *The Occasional Papers.* This installment focuses on World War I maps and is issued on the war's centenary with the hope that it will stimulate interest and research on the cartography of the "war to end all wars."

World War I was the first major world event to have an impact on the Geography and Map Division, after its establishment in 1897. With the advent of the war, military and commercial map publishers greatly expanded production of topographic, battle, and geographic maps for combatants and the general public. Philip Lee Phillips, the first and longest tenured chief of the Geography and Map Division (1897-1924), made a special effort to collect these works. They were described under his direction in *A List of Atlases and Maps Applicable to the World War,* published by the Government Printing Office in 1918.

Phillips' successor, Lawrence Martin (1924-1946), continued this effort. Colonel Martin, as he preferred to be called, taught the fundamentals of cartography and map interpretation as an army officer during World War I and then served as Chief of the Army's Geographical Section of the General Staff's Military Intelligence Division, a position that involved collecting, evaluating, and disseminating geographic and cartographic information. Following the Armistice, he conducted fieldwork and map studies in Central Europe with the American Commission to Negotiate Peace. Martin retired from active military duty in 1920 but remained in the Officers Reserve Corps with the rank of Lieutenant Colonel.

With a strong interest in military history, Geography and Map Division Specialist Ryan Moore continues in this tradition. Mr. Moore has graduate degrees in history and library science. During the past four years, he has processed three World War I special collections and has reviewed nearly all of the Division's related holdings. His introductory essay places these maps within the context of the war.

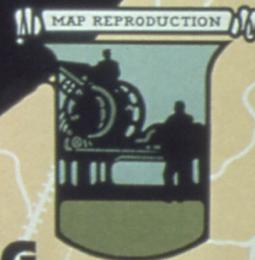Ralph E. Ehrenberg
Chief, Geography and Map Division

Preface

I began this project in 2010 with a goal of surveying the World War I trench maps in the Geography and Map Division. Once engrossed in the collection, however, my research soon extended to a review of naval warfare, military intelligence, and aerial reconnaissance maps. Pandora's box was opened. I discovered that while there is not only a wealth of primary sources—maps printed during the war and reprints of maps used during the war—a large collection of historical studies is part of the collection, as well. After reviewing so many amazing maps, I was unsure of how to account satisfactorily for all of them. Therefore, when planning for this publication, I decided to limit my review to primarily military maps that were printed during the World War I era. I urge anyone who is interested in this fascinating historical period to use this publication as a starting point to discover the Library's amazing primary resources. I am confident that the examples offered will support a variety of research topics and will enhance the teaching of the subject.

This project would not have been possible without the assistance of Ralph Ehrenberg, Dr. John Hébert, Mike Buscher, Anthony Mullan, and Michael Klein. Each of them provided encouragement, useful suggestions, and excellent insights. Mr. Klein served as the first reader of my earliest draft, and Margaret Wagner of the Library's Publishing Office helped greatly in the editing process. Their suggestions greatly improved my manuscript.

Ryan Moore
Geography and Map Division

Figure 1

Contents

The Central Powers—Germany, Austria–Hungary, the Ottoman Empire, and Bulgaria
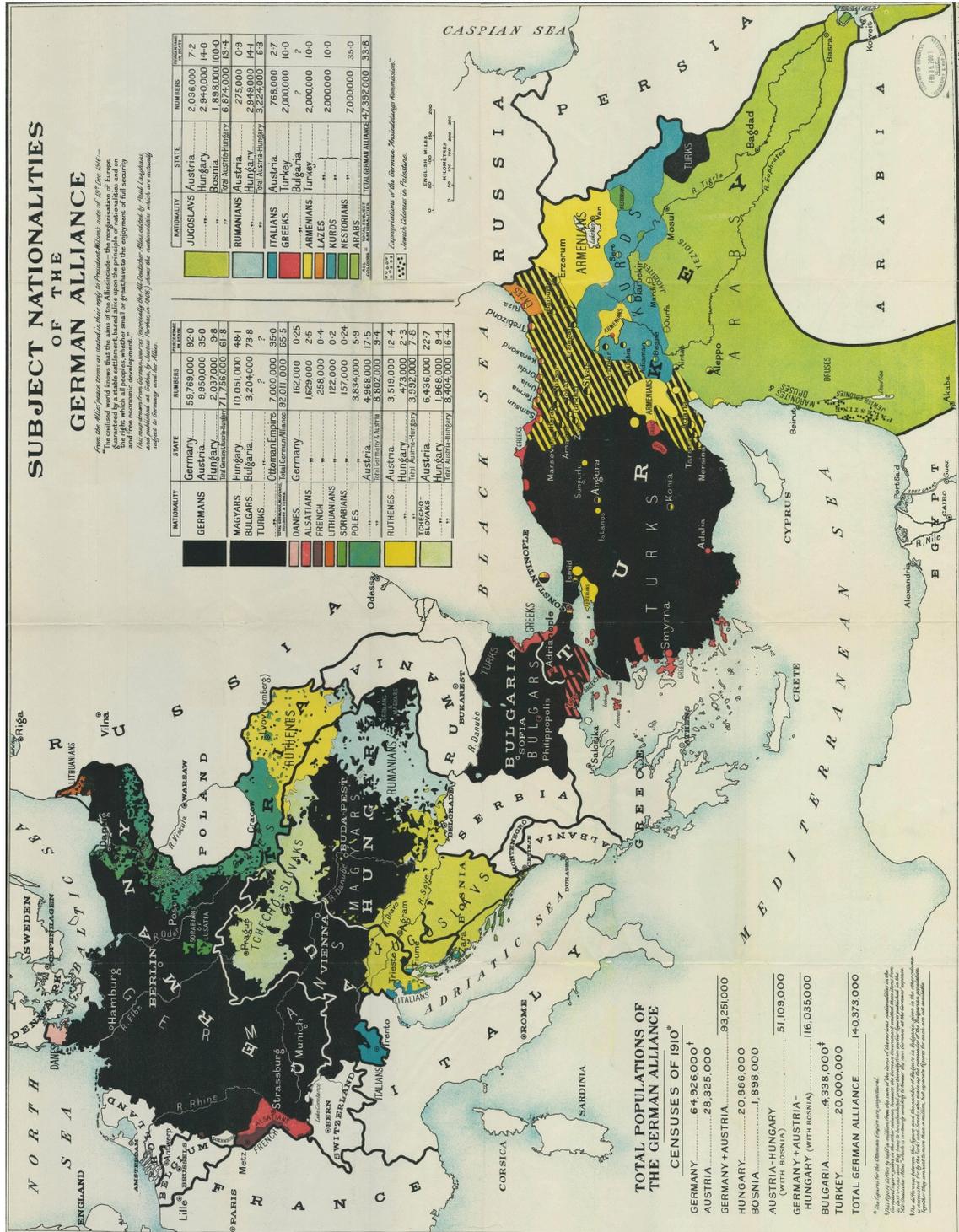
Figure 2

Maps of The First World War

WEST AFRICANS · MOROCCANS · PORTUGUESE · FRENCH · ENGLISH · BELGIANS · GERM

CANADIAN INDIANS

HUDSON BAY

CANADA

ITALIANS

NORWAY · SWEDEN · DENMARK · BALTIC SEA · BRITISH ISLES · LONDON · BERLIN · GERMANY · PARIS · AUST HUNG · FRANCE

CANADIANS

UNITED STATES

NEW YORK

ATLANTIC

SPAIN

PORTUGAL · MEDI

BERMUDA

CUBA

MOROCCO · ALGERIA · TRIPOLI

TURCOS

PACIFIC

OCEAN

VENEZUELA · COLOMBIA · GUIANA · ECUADOR

WEST INDIES · JAMAICA

OCEAN

FRENCH WEST AFRICA

NIGERIA · KAMERUN · FR. CONGO

WEST INDIES · ALBANIANS

BRAZIL

BOLIVIA

EGYPTIANS

ANGO

GERM. S.W. AFRICA

SENEGALESE

RIO DE JANEIRO

VALPARAISO · MONTEVIDEO · BUENOS AIRES

BELGIAN COLONIALS

CAPE TOWN

CHILE · ARGENTINA

FALKLAND IS

HUNGARIANS · ARMENIANS · NIGERIANS · NATIVE SOUTH AFRICANS · SOUTH AFRICANS · MONTENEGRINS · SER
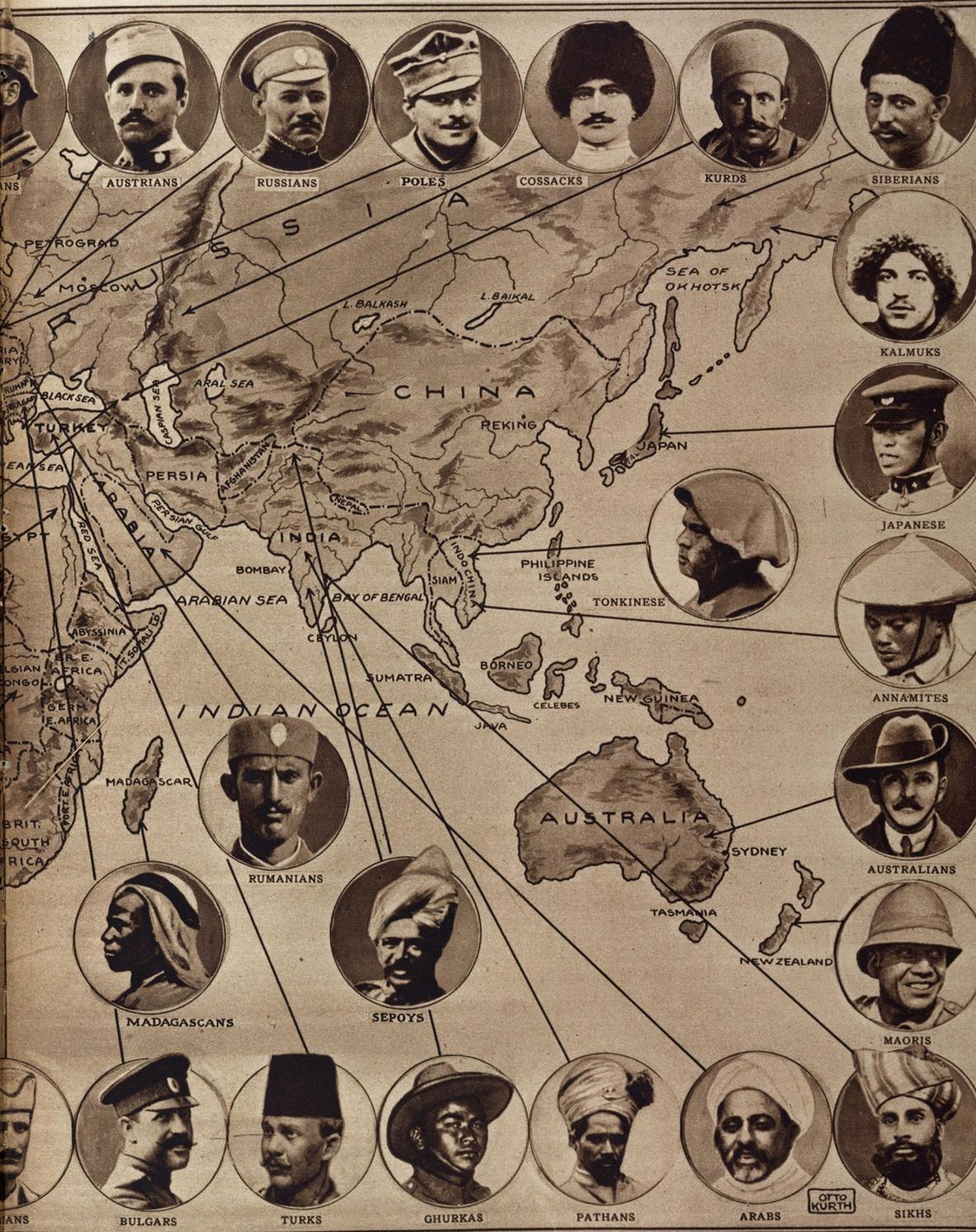
IT IS BEYOND DISPUTE THAT IN NO WAR IN THE HISTORY OF THE WORLD HAVE SO MANY RACES AND PEOPLES BEEN BR
AND THE QUARTERS OF THE

Figure 3

CONFLICT. THIS CHART HAS BEEN PREPARED TO SHOW THE MANY VARIED TYPES IN THE ARMIES ENGAGED
GLOBE IN WHICH THEY LIVE.

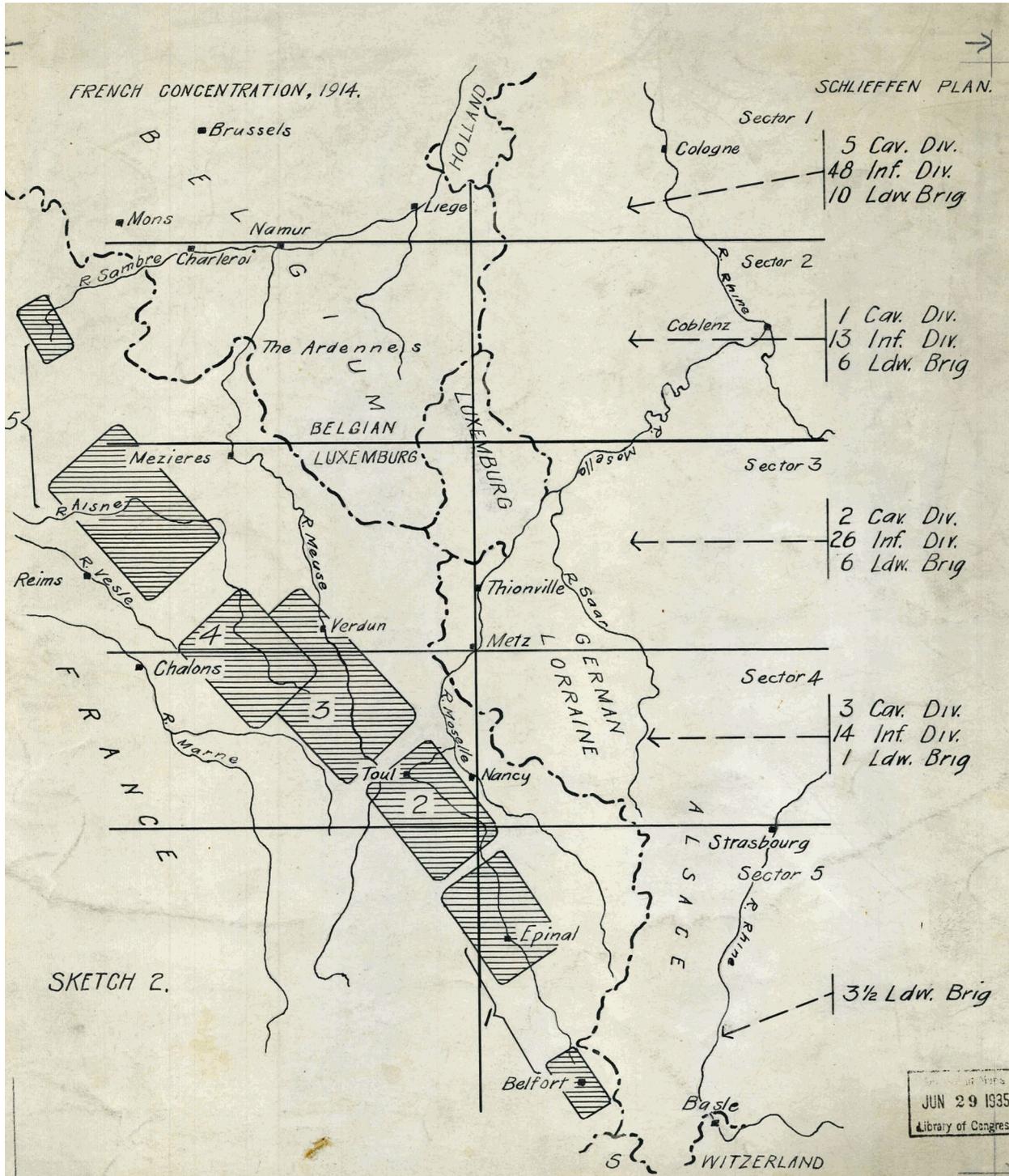## *The Schlieffen Plan—Outflank and Destroy France*

Figure 4

Introduction

The German military strategist Count Alfred von Schlieffen stressed that a commander without highly detailed maps that modeled the zones of fighting would be highly ineffective in modern warfare.[1] In his role as Chief of the German Imperial General Staff, Schlieffen (1833-1913) was principally concerned with Germany's vulnerable geographic position. Situated between the allied European powers of France and Russia, Germany was certain to face a war on two fronts should trouble arise with either. Turning to ancient Roman history for inspiration, the German strategist studied Hannibal's victory at the 216 B.C. Battle of Cannae, in which a numerically smaller Carthaginian army quickly surrounded and slaughtered the Romans.

The idea of achieving a similar speedy outflanking maneuver captured Schlieffen's imagination. He concluded that Germany should first fight France, the more militarily capable of its foes, by sending troops through neutral Belgium to circumvent a large portion of France's defenses, while Russia, which would take weeks to mobilize, was to be held at bay with minimal forces in the east. The so-called Schlieffen plan won the confidence of the German high command. The plan was reworked and crafted until the Germans were certain that victory over France would be achieved in six weeks, and troops then would be transferred by rail to defeat Russia. Undoubtedly, the plan appeared to be bulletproof when viewed on a map; however, the German leadership disregarded the wisdom of the revered military strategist Helmuth von Moltke the Elder (1800-1891), who once warned that no plan survives contact with the enemy. Nonetheless convinced of victory, they also shrugged off Britain's treaty to protect Belgian neutrality. It was the beginning of many underestimations that would haunt Germany during the war. **Figure 4**

In 1918, Philip Lee Phillips, then Chief of the Library of Congress Hall of Maps and Charts (now the Geography and Map Division), recognized the role of maps in relation to the war and continued to collect and compile materials created by the United States and foreign governments. As a result of his efforts, The Library of Congress published his cartobibliography on the World War I titled: *A list of atlases and maps applicable to the world war*. All of the maps cited were of a non-classified nature, and bibliographic information about the maps was omitted. On this hundredth anniversary of the war's start, a fresh look at the Library of Congress collections of World War I-era maps is in order, since many documents have been declassified over the years, and the Library has acquired significant numbers of maps from the combatants.

This essay and cartobibliography highlights the Library's most significant special collections, atlases, and maps pertaining to the Great War, as World War I was known in its day. The largest number of maps come from American sources or foreign-made maps used by the American military or diplomatic corps. The most informative military maps can be found in the collection of Major-General Charles P. Summerall, who was the commander of the American Fifth Corps. Particularly interesting are the assorted tactical maps for artillery fire. Summerall was infamous for ordering an attack on German positions hours before the Armistice with Germany was to take effect. Some 365 Americans were killed in the action, which became the subject of a congressional investigation. The collection of Willard B. Prince complements the Summerall collection. Prince was a regimental sergeant assigned to the Fifth Division's Topographical Unit. In addition to maps, his collection contains diaries, photos, and other documents that shed light on the war and on cartographic processes employed by the American Ex-

peditionary Forces (AEF). The collection is an excellent example of history from the "bottom up." Prince was an outstanding mapmaker and draftsman who is best remembered today for designing the Heisman Trophy for the New York Downtown Athletic Club. Equally intriguing is the collection of maps compiled by General Tasker H. Bliss. Both a wartime commander and an advisor to President Woodrow Wilson during the postwar peace negotiations, Bliss acquired maps that offer insight into postwar issues related to the need of redrawing borders, settling ethnic conflicts, and confronting the threat posed by the rise of Bolshevism in Russia.
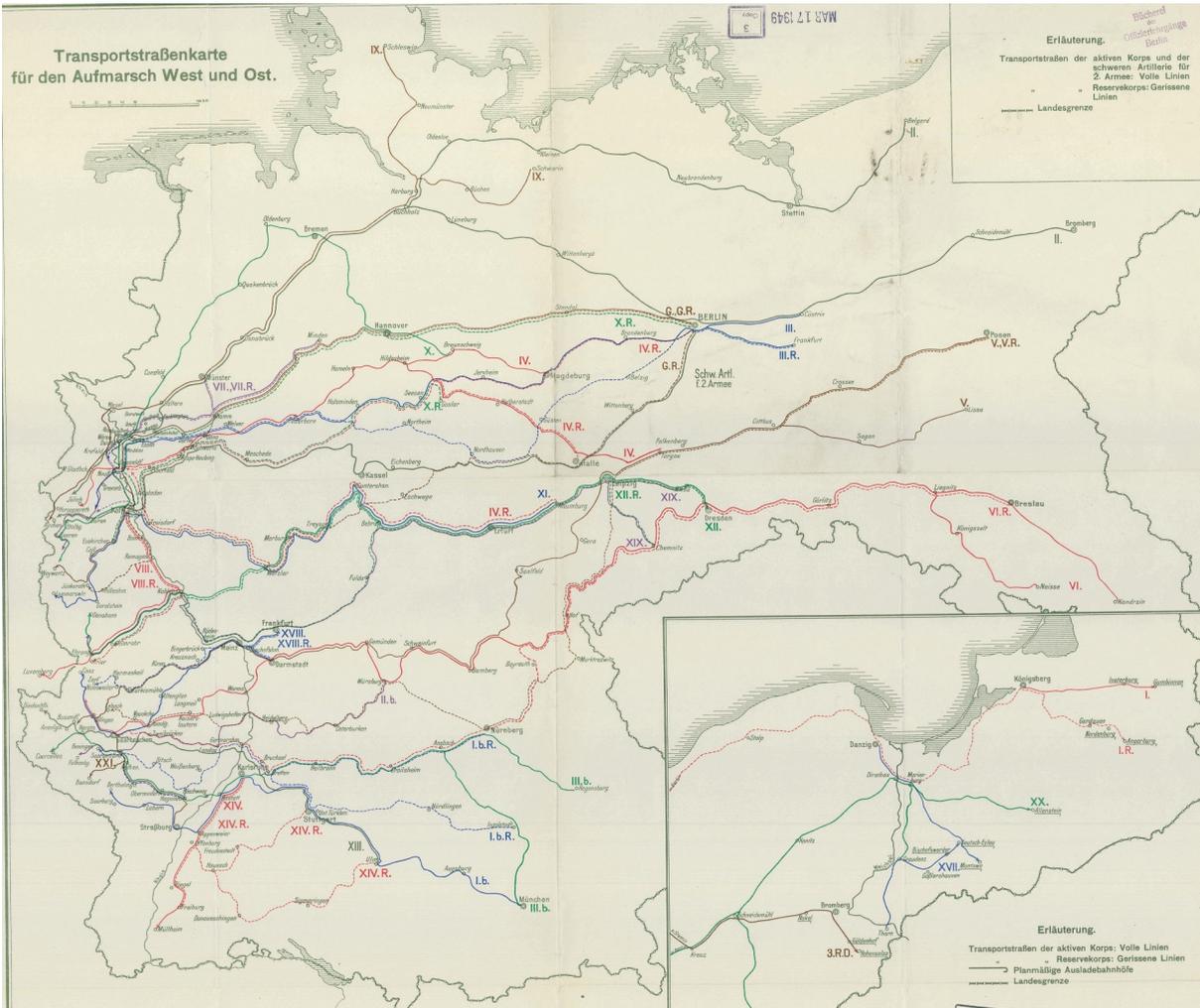
The Road to Victory by Rail

Figure 5

Trenches and Mass Bombardment

By the 1900s, advances in science and engineering led to the production of devastating weapons such as giant howitzers, battleships, machine guns, tanks, bombers, and poison gas. The deadly power of these modern arms was unleashed following the assassination on June 28, 1914 of Archduke Franz Ferdinand of Austria and his wife during a state visit to Bosnia-Herzegovina. A Bosnian Serb, who resented Austro-Hungarian rule, carried out the killing with the assistance of a secret Serbian military society known as the Black Hand. After a month of ensuing political maneuvering, Austria-Hungary declared war on Serbia. Within a week, Russia, France, Great Britain, and Serbia had lined up against Austria-Hungary and Germany, and World War I had begun. During the first weeks of the war, German troops were brought to the western and eastern fronts by a well-developed railroad network that had been built in the previous decade for just such a purpose. **Figure 5**

Maps were a critical element of the war, as attested by the millions that were produced for the world's militaries; however, maps for tactical planning were not ready at the outbreak of hostilities. Commanders on the Western Front, for example, had to rely on small scale maps such as the French *Carte de l'Etat Major*, originally published at a 1:80,000 scale from surveys conducted in the early to mid-1800s. Other available materials were cadastral surveys dating from the Napoleonic era, which emerged as important sources of information for mapping areas in northern France, including places under German control.[2]

When British forces departed for France in August, mapping was not an immediate priority; they had allocated only a single officer and clerk to the effort. By the end of the war, however, the survey organization of the British Expeditionary Force (BEF) had expanded to
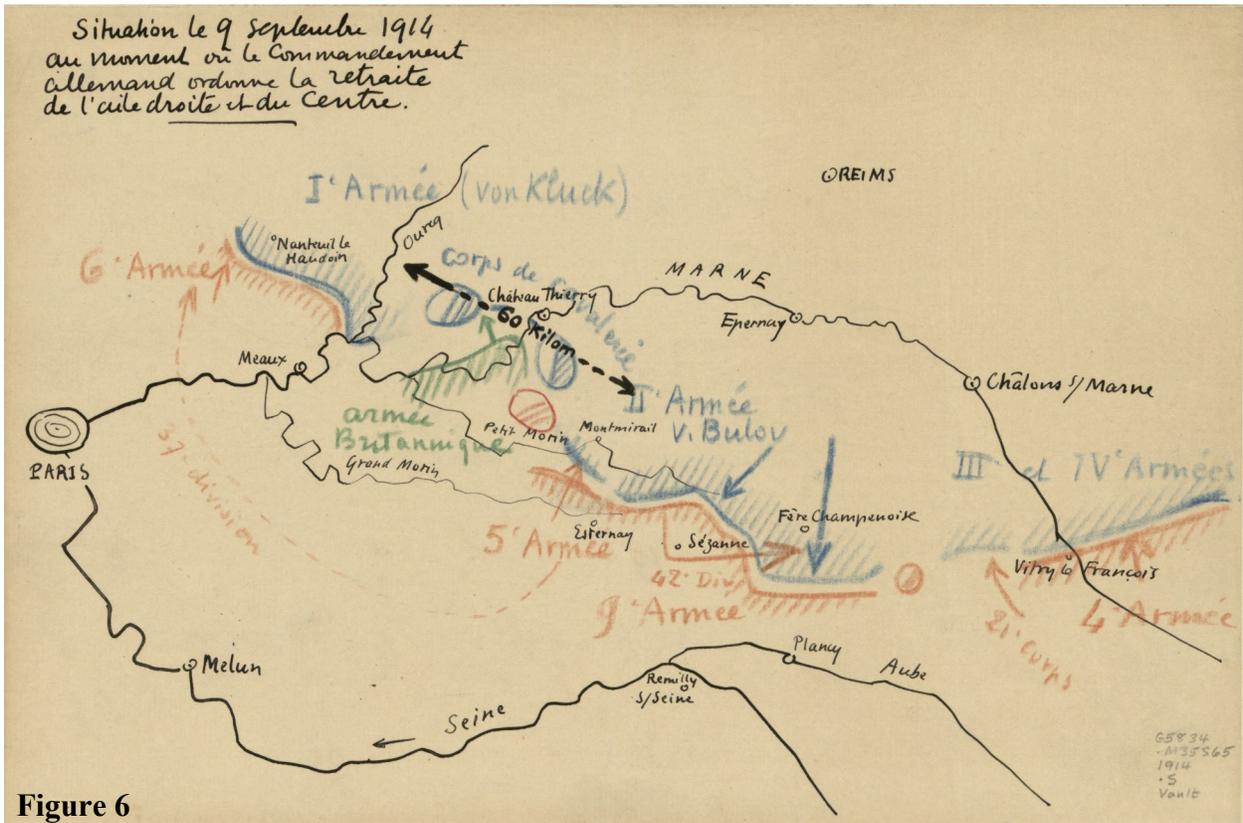
Figure 6

nearly 5,000 officers and enlisted men. Throughout the war, these British military cartogra-

phers created more than 35 million map sheets in the field using mobile printing presses.[3]

Ready or not with the proper maps, the BEF's first priority was to assist their French ally to

stem Germany's rapid advance towards Paris. At the first Battle of the Marne (September 6-12,

1914), the Allies rallied, counterattacked, and stopped the Germans. Under these pressing con-

ditions, situation maps were at times created by hand. **Figure 6**

   With neither side able to take the initiative, complex trench networks emerged on the

Western Front. Main trench lines often ran parallel, or nearly so, with those of the enemy. Sec-

ond and third tier trenches, situated behind the main line, were built to support the front and

served as a place of retreat. Intersecting these combat positions was a network of

"communications trenches" by which troops and supplies could ingress and egress in relative safety. Small scale maps proved ineffective in the densely tangled trenches.

Not until 1916, however, did a complete system of larger scale maps for the entire Western Front become available for the Allies; the Central Powers were feverishly mapping, as well. Allied tactical maps were general printed at three scales: infantry maps at 1:10,000; artillery maps at 1:20,000; and planning maps at 1:40,000. Intelligence needed to create these maps was gathered from observations in the field and from the air, as well as from statements given by prisoners. New data was overlaid on prefabricated topographic sheets and updated daily. Concerns arose about the impact of weather and soil on maps that were being used in the field; however, even greater worries developed over losing a map showing one's own positions. Caution dictated, therefore, that troops on the front only be issued with maps depicting enemy

Know Thy Enemy — A Prototypical Tactical Map
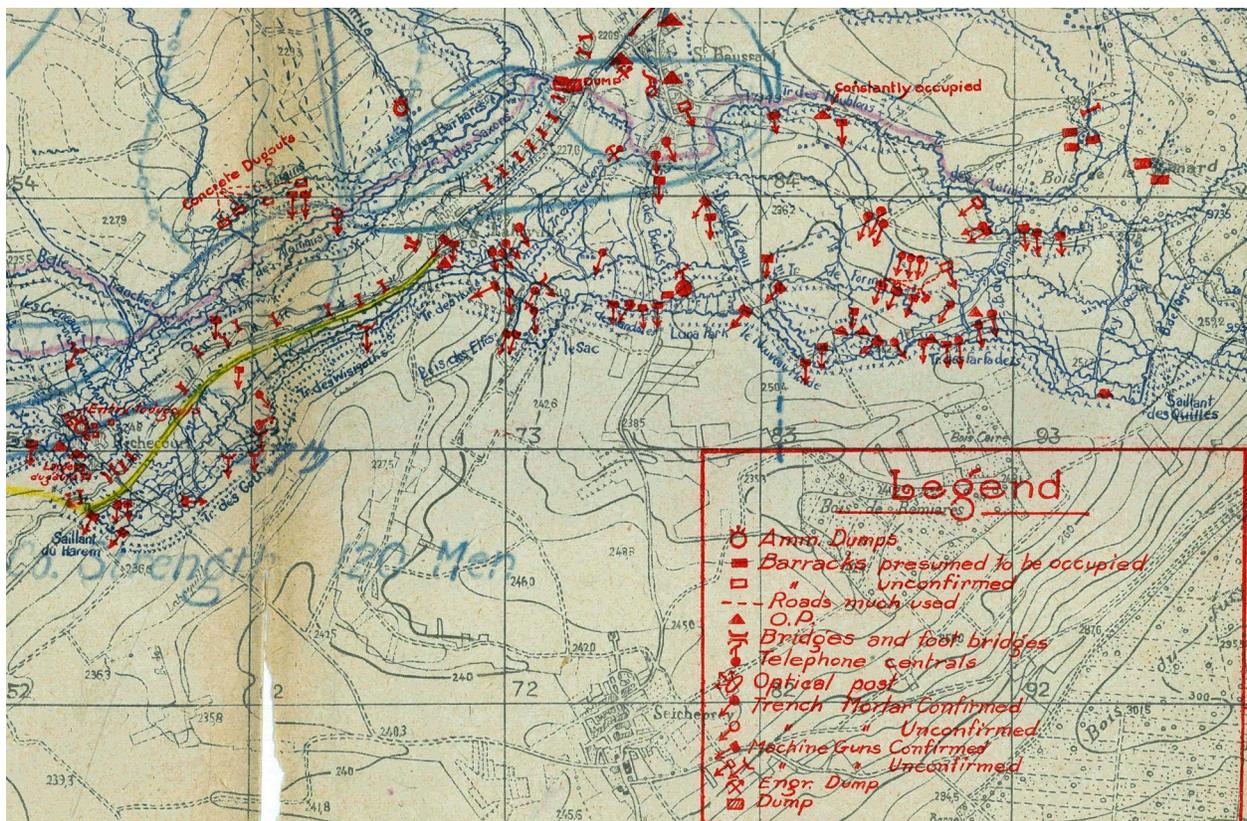

Figure 7

trenches.[4] **Figure 7**

Unseating an enemy from fortified positions required the use of artillery and accurate maps. Targets had to be identified and fire plans developed. Typically, shelling preceded an infantry assault. The goal was not only to destroy barbed-wire and other formidable defenses but also to break an enemy's will to fight.
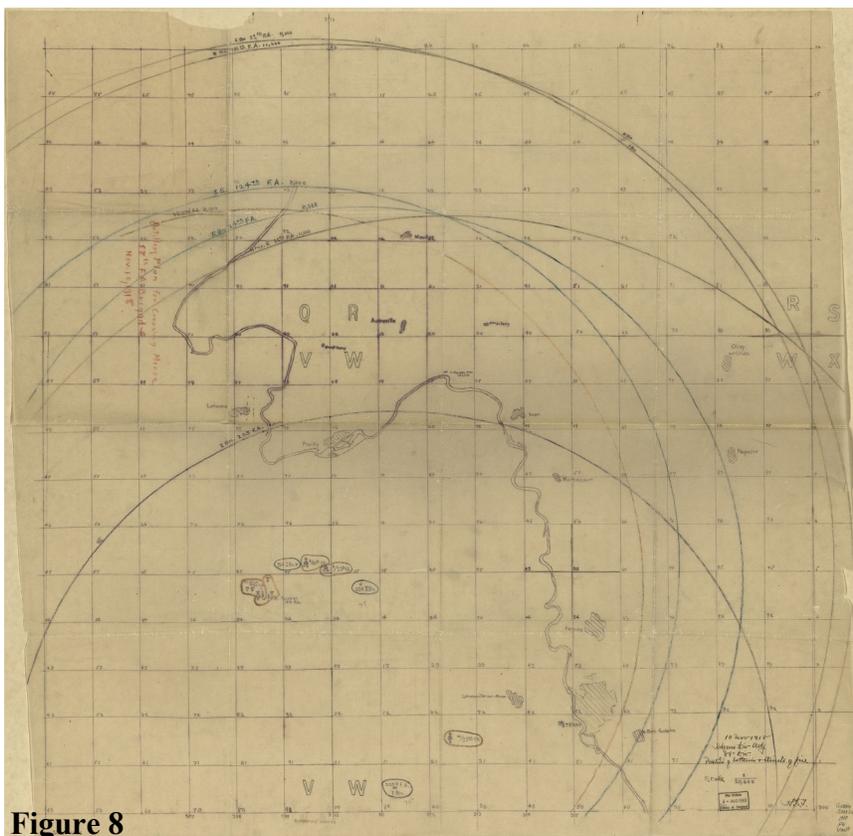
Figure 8

Once orders were issued, gunners and spotters referred to large-scale maps, which had subdivided grid lines that allowed for the correction of fire to within a few yards of the target. This was an important development in warfare, known first as "map shooting" and later as "predicted fire," because gunners could hit targets without first having to take ranging shots, thereby preserving the element of surprise. The British general George McKenzie Franks of the Royal Artillery characterized this development as "one of the wonders of the war," though wondrous in the darkest of ways, as artillery fire was responsible for some 60 percent of all casualties.[5] Despite well-planned bombardments, entrenched defenders seemed to defy logic and regrouped quickly to pour intense machine gun and rifle fire on attacking troops exposed in no man's land. Attackers were cut down in droves, yet these tactics prevailed for nearly two years.

Seeking to break the stalemate on the Western Front, in 1916, British tacticians began revisiting an artillery bombardment method known as a "creeping barrage" to assist attacking troops. Used previously in the South African Boer Wars, the practice was complicated, required timing, and could not be executed without reliable maps. The line of advance was plotted on a map, and artillery shelled designated points that were typically 100 yards ahead of the infantry's position. Following a fixed timetable, the bombardment rolled forward to destroy obstacles, as the infantry advanced behind it in relative safety. The process continued until the troops reached the final stage of the assault. The verdict was typically decided by opponents who fired shots at close range and engaged in hand-to-hand fighting with bayonets, trench shovels, or other improvised weapons.[6] **Figure 9**

The destructive power of heavy guns demanded that they be neutralized quickly. Combatants refined techniques such as flash spotting and sound ranging to find enemy gun emplacements. The former required frontline observers to note the bearing (direction) of the enemy
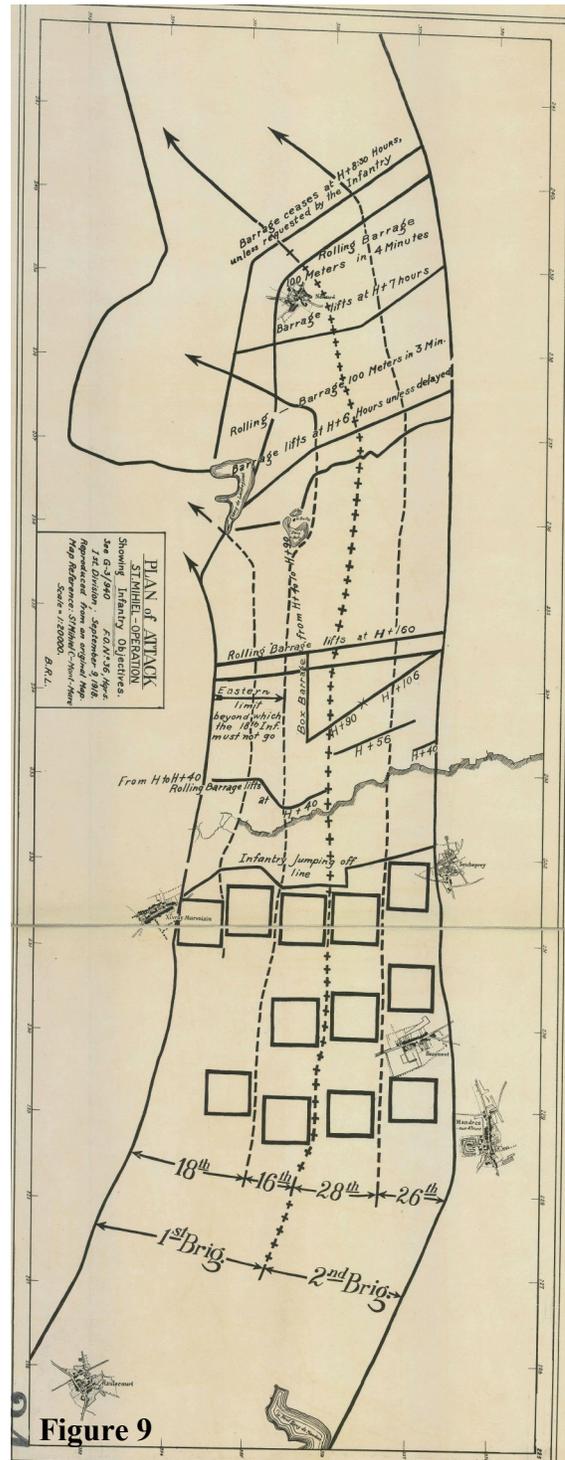
Figure 9

gun's muzzle flash. Intersecting the location of the observer and his reported direction of the gun's flash with that of other observers spotting the same gun, it was possible to determine the approximate position of the opponent's artillery piece. Whereas, the latter involved strategical-ly placed microphones connected to a graphing device that measured the differences detected in the gun's report. By 1916, British sound ranging methods were accurate from 25 to 50 meters under normal weather conditions; in fact, all combatants had some method of locating opposing artillery. These counter-battery measures forced artillery commanders to relocate their guns frequently or run the risk of having them destroyed.

The deadly game of hide and seek was complicated by the development of aerial recon-naissance. A British officer reflected after the war: "It was impossible to have guns deployed at the same point and in action for weeks or months without the position being given away in the air photograph by tracks and gun pits, no matter how one tried to camouflage it."[7] So accurate was aerial photography that it accounted for more than 30 percent of all information collected. By 1917, British aerial reconnaissance reduced the error factor in mapping German targets to less than 20 yards.[8] Without a doubt, the combination of heavy guns, aerial photography and mapping was devastating.

Monster Guns in Use by American Forces in Argonne
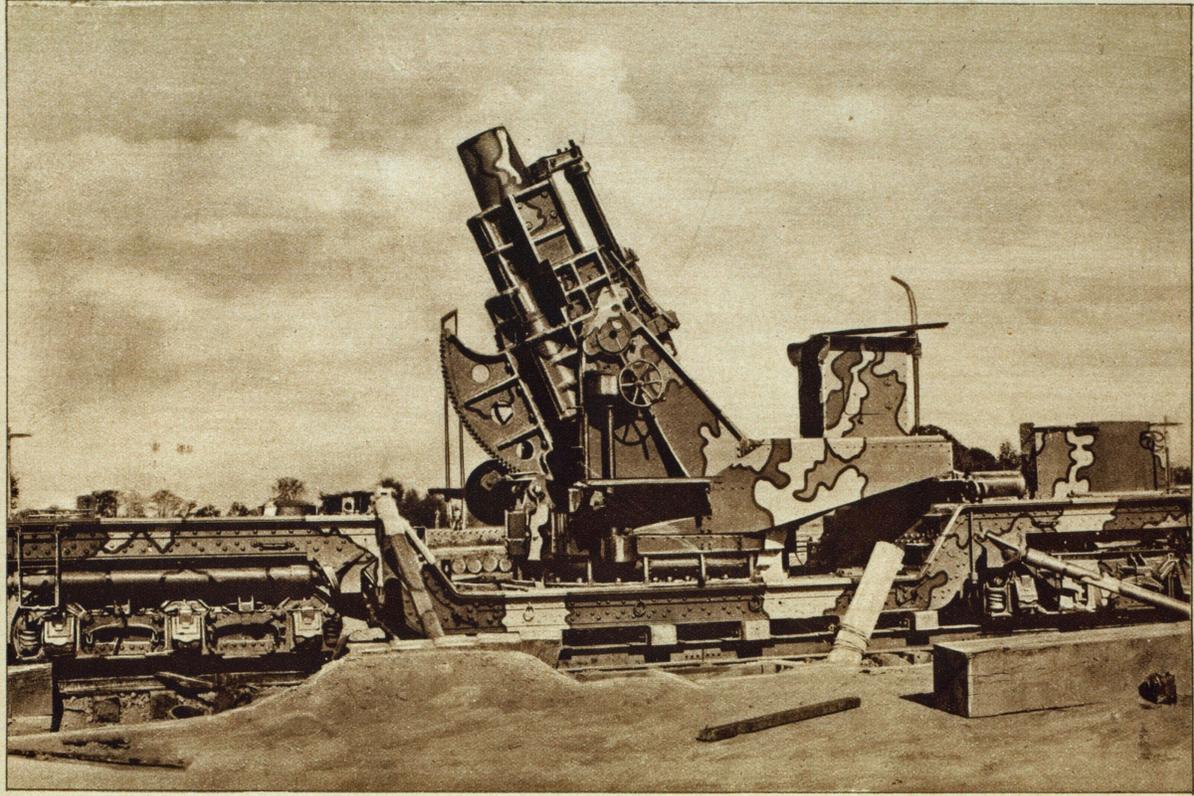
AMERICAN MORTAR RAILWAY MOUNT, USED TO DESTROY CONCRETE AND DEEP UNDERGROUND FORTIFICATIONS.
IT WILL HURL A HUGE SHELL MORE THAN TEN MILES, ANDCAN BE PUT IN OPERATION IN FIFTEEN MINUTES.
(© Committee on Public Information, from Brown Bros.)
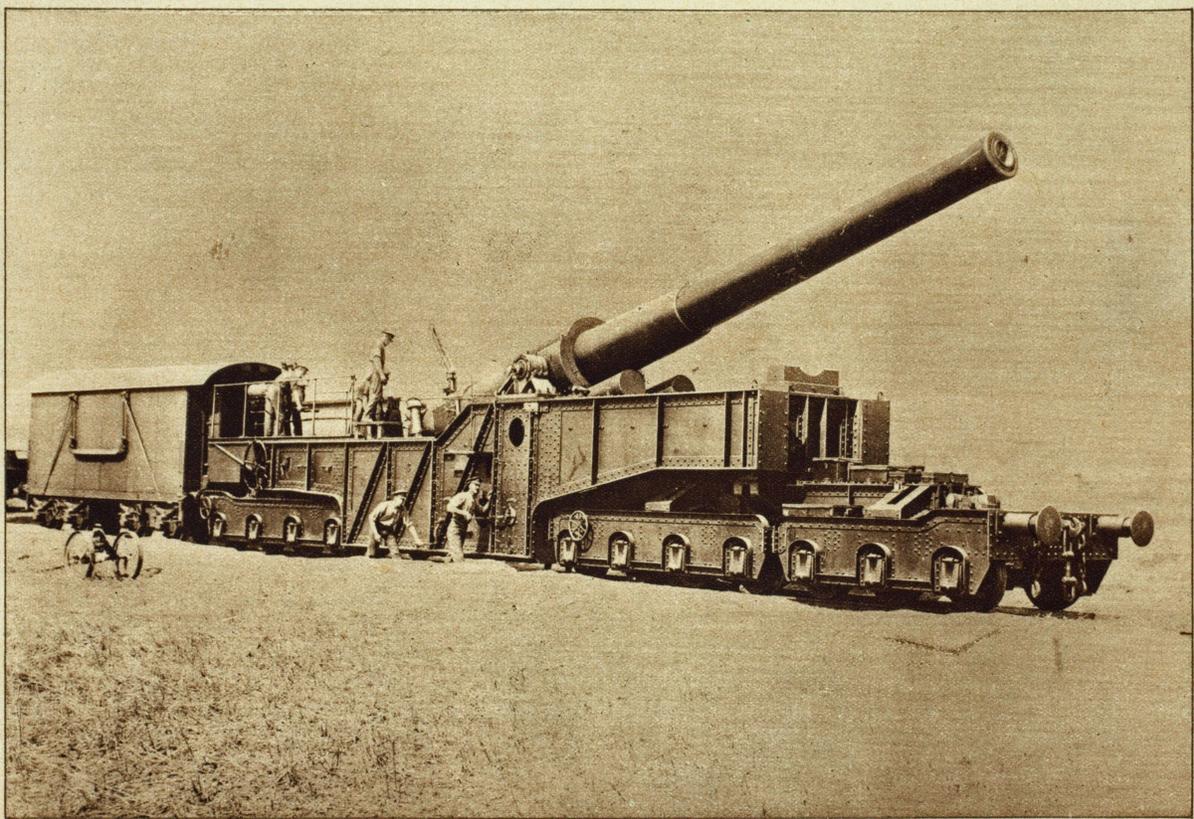
ONE OF THE GREAT GUNS THAT ARE MANNED BY MEN FROM THE AMERICAN COAST ARTILLERY, AND THAT CAN BE
TRANSPORTED TO ANY PART OF THE FIGHTING ZONE WHERE RAILROAD TRACKS ARE OR CAN BE LAID.
(© British Official Photo.)

Figure 10

Figure 11

Blockade, Submarines, and Battleships

The public hungered for information about the war, and the conflict at sea was a prime example of how maps illustrated the growing danger to civilians and combatants alike. Problems escalated when Britain and France planned to strangle Germany and its allies by means of naval blockades. Germany retaliated using its submarine fleet, known as U-boats, to strike at Allied commerce and also neutral ships bound for Allied ports. Maps of areas in which U-boats were known to be operating quickly made their way into newspapers. It sparked a fiery public debate about the meaning of "freedom of the seas" in an era of when Germany wished to disregard treaties that required warships, including submarines, to warn non-combatant vessels before firing on them and to rescue survivors. The ensuing political outrage caused Germany to vacillate between abiding by conventions and maximizing the submarine's surprise attack potential. Maps were showing their worth as a means of both propaganda and planning.

Figure 11

On the shipping lanes of the Pacific and Indian oceans, Germany attacked Allied commerce with both surface military vessels and commercial ships fitted with weapons, which were known as commerce raiders. The loss of commercial ships caused insurance rates to rise dramatically and resulted in a temporary stoppage in some areas until the raiders were neutralized. The Allies worked feverishly to chart the likely whereabouts of the elusive German raiders, which benefited from the fact that most commercial ships lacked radios and therefore could not warn others of the threat. Intelligence officers culminated information from direct sightings, the last known location of ships believed to have been attacked, and occasionally, the lucky intercept of a German radio transmission, which revealed either the raider's location or destination.

The most famous German raider was the warship *SMS Emden* whose crew often dis-

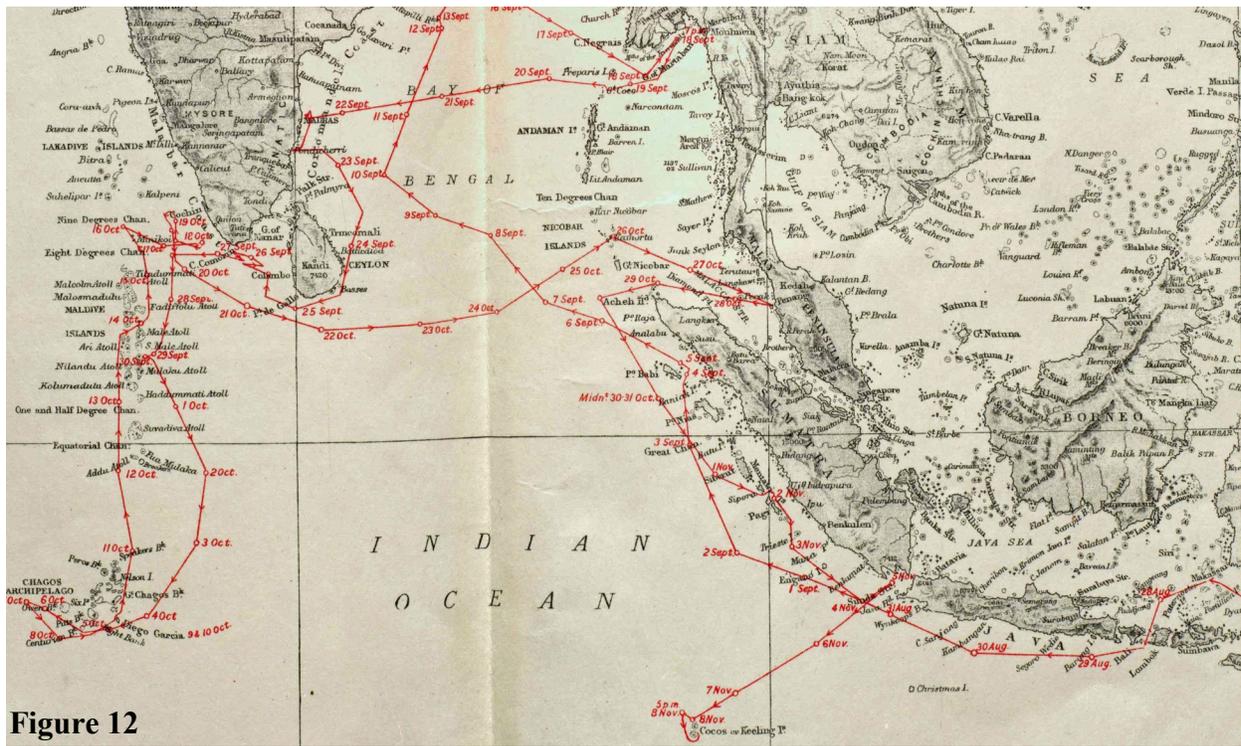## On the Trail of Germany's Elusive Raider S.M.S. Emden

Figure 12

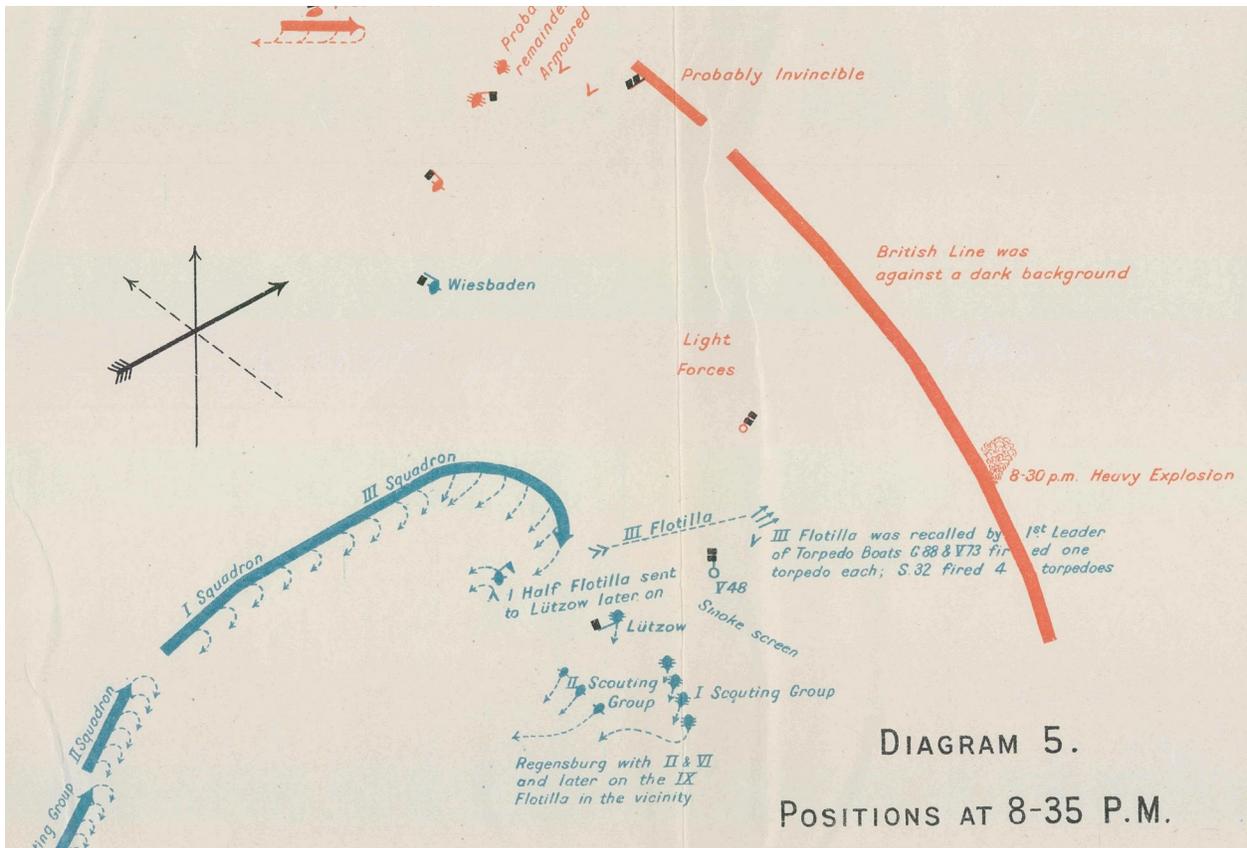## Crossing the German "T" — Textbook Maneuver at Jutland
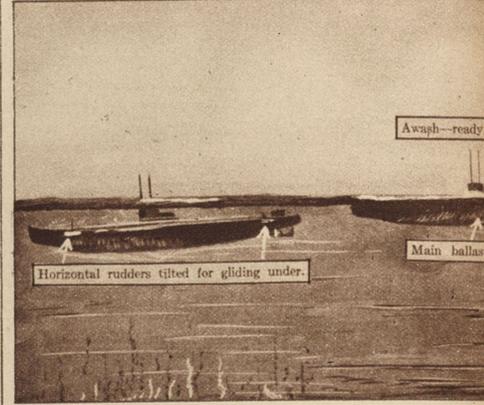

Figure 13

guised their vessel by adding a false fourth funnel to alter the ship's configuration. The clever

use of camouflage enabled the raider to sink or capture some thirty merchant vessels and war-

ships in the opening months of the war. On November 9, 1914, its cruise of the Indian and Pa-

cific oceans ended after the ship was run aground intentionally to avoid capture by a more pow-

erful Australian warship near the Cocos Islands.[9] **Figure 12**

    While this guerilla war at sea was being waged, the mighty surface fleets of Britain and

Germany played a tense waiting game. After two years and a pair of skirmishes, they finally

clashed in the largest naval engagement of the war, the Battle of Jutland, during the summer of

1916. The German navy sortied into the North Sea to lure the British into a decisive battle.

During the early stages of the fight, Britain's fast but lightly armored battle cruisers met the

Germans with disastrous results. The lauded battle cruiser *HMS Indefatigable* went to the bot-

tom in seconds after a German shell ripped through its light armor and exploded the magazine.

Only two of the crew of 1,019 survived. However, the tables turned when British battleships

arrived on the scene. The British had anticipated the German fleet's position and performed a

textbook maneuver called "crossing the enemy's T." This meant the British could fire a full

broadside as the Germans approached them from an intersecting path. The fighting was fero-

cious. In total, three of England's vaunted battle cruisers were sunk, along with eleven other

ships. Germany lost six ships and four small torpedo boats. With loses mounting, the Kaiser's

fleet raced home, and the battered Royal Navy failed to pursue effectively; afterwards, both

sides claimed victory. Despite the stinging loss of capital British ships, the strategic balance of

heavy ships remained with England. The German *Kriegsmarine* was consigned to port for the

remainder of the war.[10]   As all this unfolded on the world's vital sea lanes, the public sought to

understand the battle, and other engagements, through map recreations. **Figure 13**

MERCHANT SHIP STRUCK AND BLOWN UP BY THE EXPLOSION OF A TOR-
PEDO FROM GERMAN SUBMARINE. THE PATH OF THE TORPEDO CAN BE
CLEARLY SEEN. *(Feature Photo Service.)*

GERMAN MINE-LAYING U-BOAT U. C. 5, CAPTURED BY THE BRITISH.
VIEW OF HER UPPER DECK SHOWING CONNING TOWER, PERISCOP
AND MINES. *(International Film Service.)*

Horizontal rudders tilted for gliding under.

Awash—ready

Main ballast

FIRST STAGE OF SUBMARINE WO

Completely submerged—st

All ballast tanks filled for resting on ocean floor.
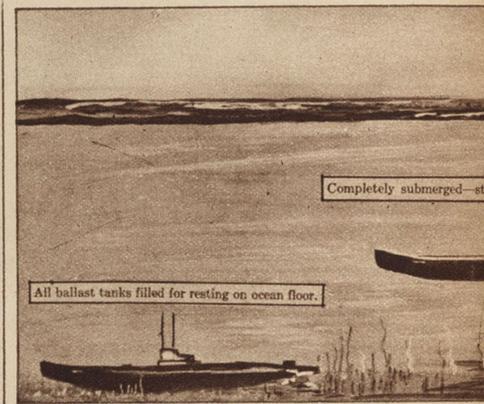
SECOND STAGE—GERMAN SUBMARIN

Hydroplane.

Torpedo tube.
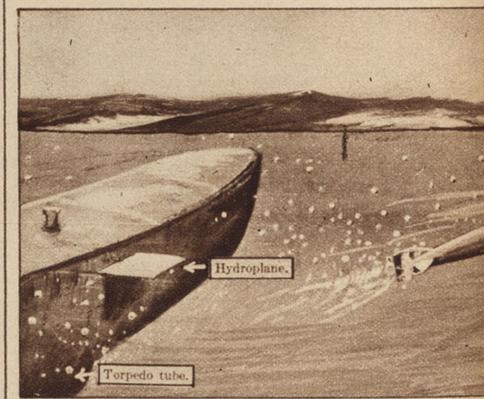
THIRD STAGE—SUBMERGED AND I
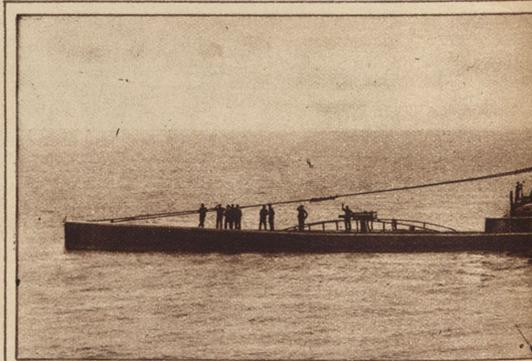
PHOTOGRAPH OF THE GERMAN SUBMARINE U-65
ON THE LINE FROM BARCELONA TO HAVANA
(© Underwood

Figure 14
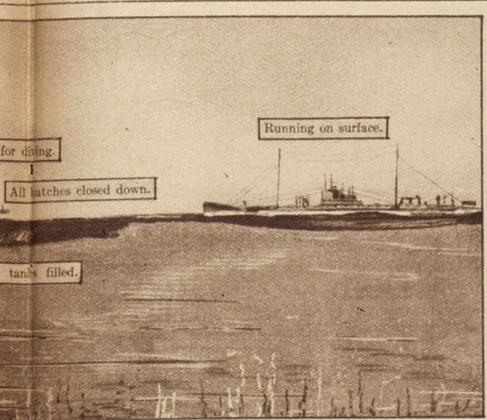
for diving.

Running on surface.

All hatches closed down.

tanks filled.

RK—FROM SURFACE TRIM TO DIVING.
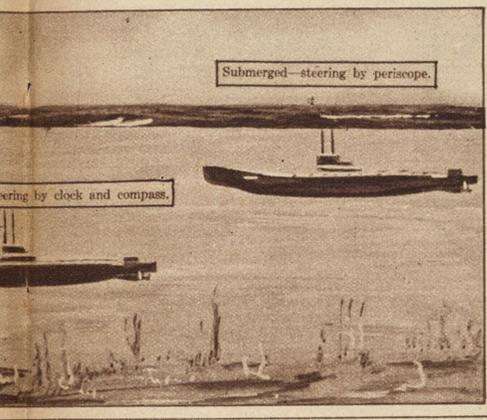
Submerged—steering by periscope.

ering by clock and compass.

E SUBMERGED AFTER SINKING VESSEL.
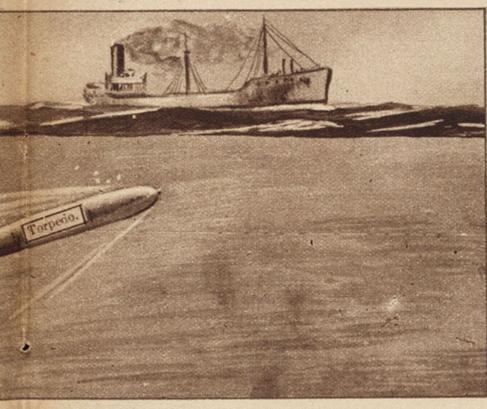
Torpedo.

DISCHARGING THE DEADLY TORPEDO.
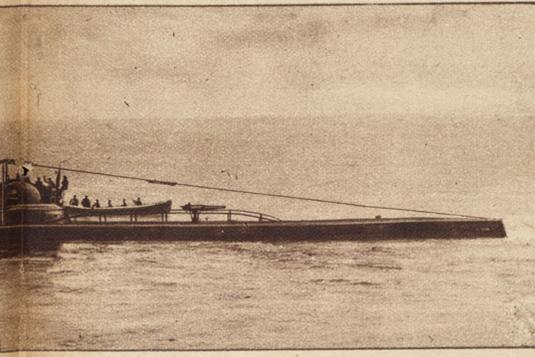
LYING IN WAIT FOR HOSTILE AND NEUTRAL SHIPS
AND SEVERAL HUNDREDS OF MILES OUT AT SEA.

d & Underwood.)
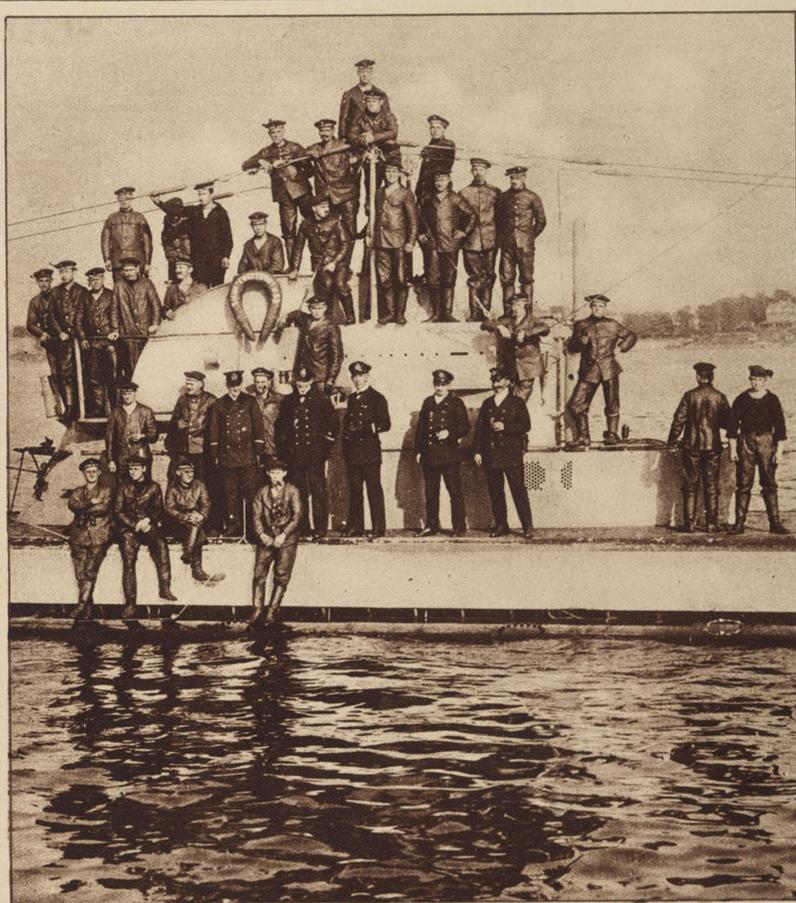
CAPTAIN AND CREW OF THE U-53, THE SUBMARINE WHICH CREATED A
SENSATION BY CROSSING THE OCEAN AND ARRIVING IN NEWPORT
OCT. 7, 1916. (© See International Film Service.)

WATERTIGHT DOOR
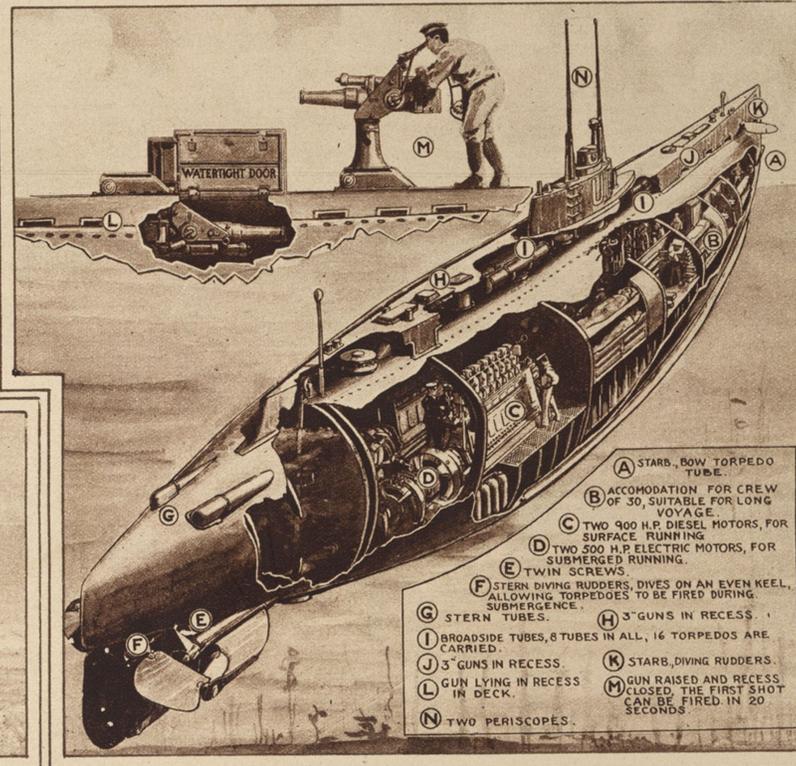
(A) STARB., BOW TORPEDO
TUBE.
(B) ACCOMODATION FOR CREW
OF 30, SUITABLE FOR LONG
VOYAGE.
(C) TWO 900 H.P. DIESEL MOTORS, FOR
SURFACE RUNNING
(D) TWO 500 H.P. ELECTRIC MOTORS, FOR
SUBMERGED RUNNING.
(E) TWIN SCREWS.
(F) STERN DIVING RUDDERS, DIVES ON AN EVEN KEEL,
ALLOWING TORPEDOES TO BE FIRED DURING
SUBMERGENCE.
(G) STERN TUBES.   (H) 3" GUNS IN RECESS.
(I) BROADSIDE TUBES, 8 TUBES IN ALL, 16 TORPEDOS ARE
CARRIED.
(J) 3" GUNS IN RECESS.   (K) STARB., DIVING RUDDERS.
(L) GUN LYING IN RECESS   (M) GUN RAISED AND RECESS
IN DECK.   CLOSED, THE FIRST SHOT
CAN BE FIRED IN 20
SECONDS.
(N) TWO PERISCOPES.

CROSS SECTION OF A GERMAN SUBMARINE SHOWING EVERY IM
PORTANT FEATURE THAT HAS MADE IT SUCH A MENACE DURING
THE WAR.

Aerial Photographic Analysis by Doughboy Cartographer Willard B. Prince

Church on
the hill

Dun-
Sur-Meuse

Note ruined
houses

Red
Cross
Hospital

5 TH
DIV.
HQRS. Nov 6

Red
Cross
Hospital

Shell
Holes

River
Canal

Note shadow
of plane

Bridges destroyed
in all places

This Aeroplane
Photograph taken
while Germans still
held the Town
they can be seen in
the streets between A-B

Nov. 4-5 1918
Fifth Division Crossed River here
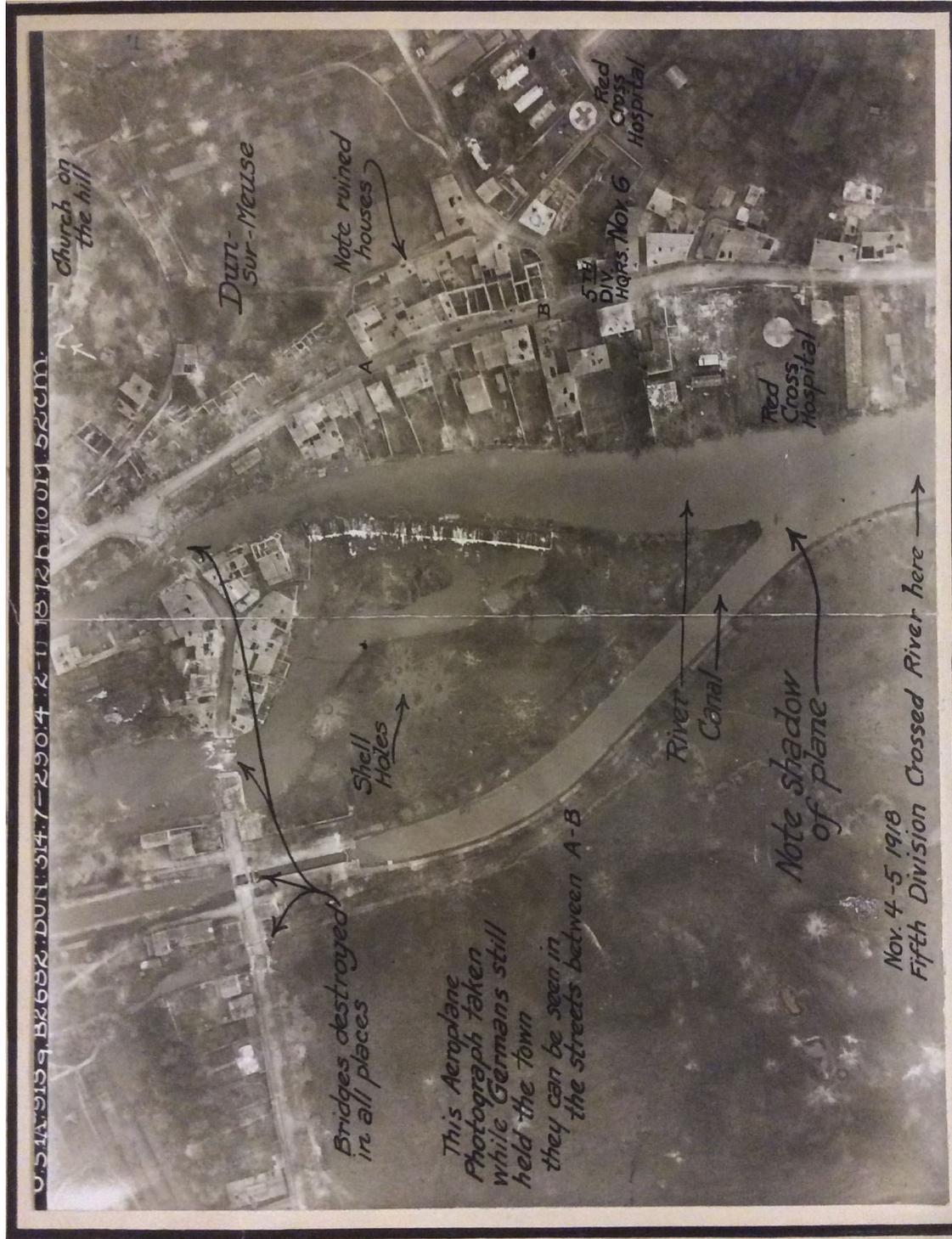
Figure 15

America Enters the War

The United States entered the war in 1917 after Germany resumed U-boat surprise attacks—placing American ships, cargoes, and people in increased danger—and then added insult to injury with an unsuccessful bid to lure Mexico into an alliance.[11] The first American troops arrived in France in June 1917; AEF troops deployed on the Western Front would eventually number some two million men.[12] Unlike American combat troops who initially failed to heed cautionary suggestions from their allies and made some reckless attacks, AEF mapmakers were more than willing to benefit from experience. Eighty-three officers and 1,068 enlisted men were responsible for creating and updating maps for the "doughboys."[13] The skill level of AEF mapmakers and draftsmen varied greatly. While many of the officers had honed their craft with the U.S. Geological Survey, others, in particular enlisted men, had received minimal training and were expected to learn on the job.

Among the mapmakers assigned to the U.S. Army Fifth Division's Topographical Unit was Regimental Sergeant Willard B. Prince. The sergeant was one of the first Americans trained in aerial mapping by the French. Prince explained that the goal was to document the enemy's position and to translate the data to maps; the process, however, was both dangerous and tedious. The best photographs were shot at an altitude of 1,500 meters, which was well within in the range of anti-aircraft guns. Despite this threat, it was necessary to take photographs over enemy airspace on a daily basis and to compare the results with previous shoots. A given photograph was cleaned ("restitution), analyzed ("interpretation"), and the data was transferred from the photograph to a map by tracing, ensuring that it matched the correct coordinates ("rectification").

The Meuse-Argonne—America's Largest Offensive of the War

Figure 16

Working in less than ideal field conditions, often in poor lighting and relying on handheld magnifying glasses, analysts looked for changes in the landscape, such as the appearance of new trenches and foot or tire prints that would indicate the presence of enemy forces, since rarely were they photographed in the open. In fact, nearly every clue about enemy positions and movements was indicated on Allied maps such as damaged or destroyed bridges, the presence of Red Cross hospitals, and even church towers that the enemy might use for observation.[14] **Figure 15**

By 1918, a series of successful Allied offenses, such as the Meuse-Argonne, steadily forced back the German lines, during which the fighting was often tenacious. The rapidly changing conditions on the ground made information from enemy sources critical in order to have a reliable picture of the situation. Intelligence gathered from German prisoners, captured documents, and the "spy system" was so accurate that American forces had "in black and white," the location, name and in many cases the strength of the opposing German divisions, according to Prince. As the AEF advanced to exploit this information, headquarters lost track of their troops on occasion; however, this problem often was resolved by the use of aerial photography. Prince recalled the method employed was as follows: Troops positioned at regular intervals displayed white canvasses skyward; a reconnaissance plane passed over the positions, photographing them; mapmakers received photographs that showed a series of white squares that illustrated the length of the American lines; and this information was transposed to situation maps.[15] These mapping practices helped to make the Meuse-Argonne offensive the AEF's largest and most successful campaign of the war. **Figure 16**

The Germans were suffering under the weight of the Allied attacks and attempted to consolidate their positions by withdrawing to the east. Prince recalled during the American-led

St. Mihiel offensive: "Some roads appeared actually choked with motor trucks, ambulances, big guns and troops all making a hasty retreat. Message after message was dropt to us from planes telling of the enemy rout. We located these points and picked important crossroads as good marks. These were given to the artillery who opened up with destructive, intermittent, harassing, and every variety of artillery fire on the great bewildered retreating mass of Huns. It resulted in complete demoralization and terrific losses."[16] Indeed, the loss of experienced men and increasingly irreplaceable equipment proved unsustainable, and Germany—suffering from the Allied blockade, facing the invasion of its homeland, and its allies crumbling—sued for peace. The war concluded with the signing of the Armistice on November 11, 1918. Although some German military leaders scoffed at their government's capitulation and wished to fight on, the odds were clearly stacked against them. The Allies held a numerical advantage in divisions, 213 to the 183 German formations; additionally, Allied forces were qualitatively superior, as they were better equipped, fed, and had higher morale. **Figure 17**

Maps of Battle Lines

All Quiet on the Western Front—Armistice Day November 11, 1918

ORDER OF BATTLE ON WESTERN FRONT
11 A.M., NOV. 11, 1918.
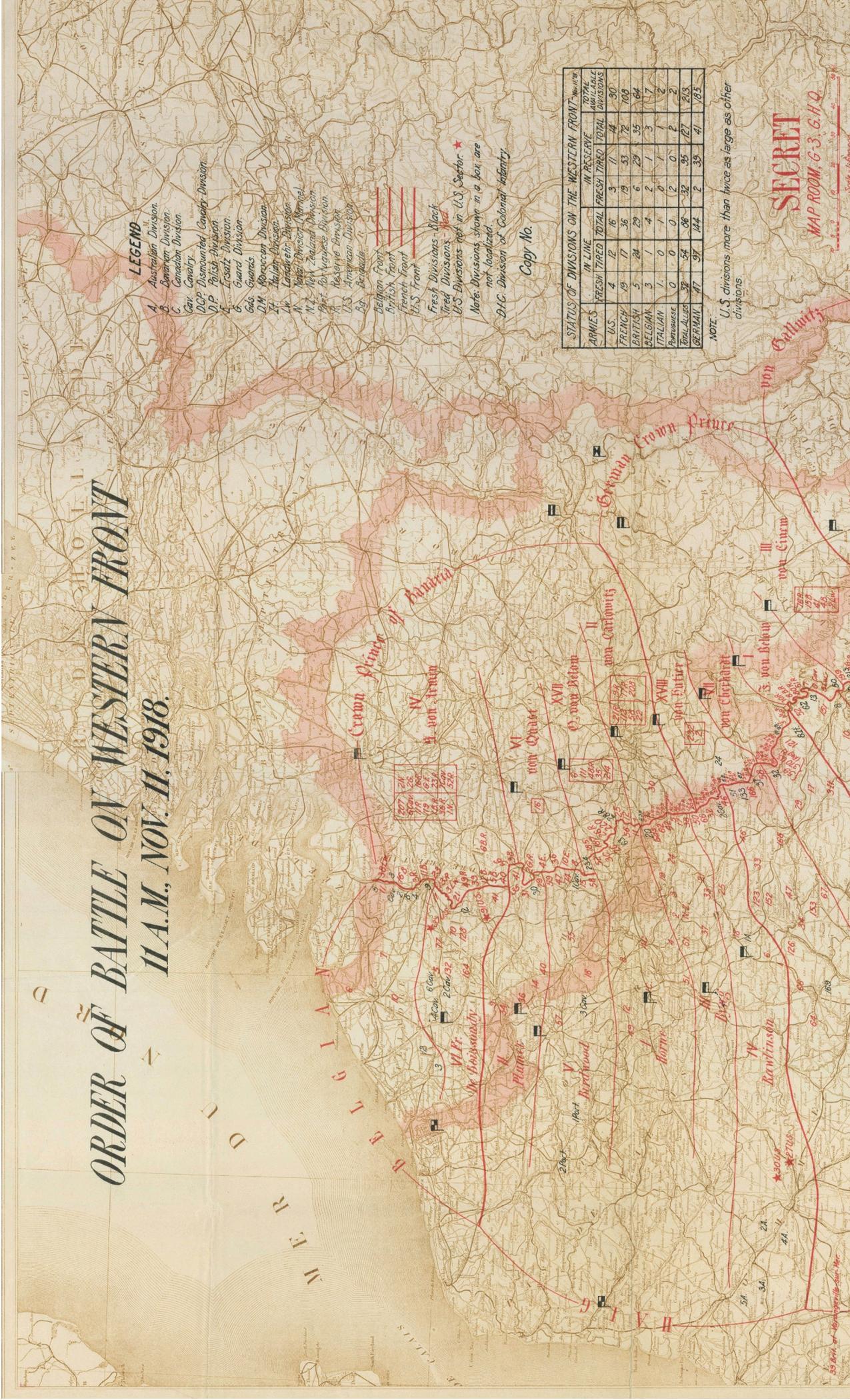
LEGEND

- A. Australian Division.
- B. Bavarian Division.
- C. Canadian Division.
- Cav. Cavalry.
- D.C.P. Dismounted Cavalry Division.
- G.P. Polish Division.
- E. Ersatz Division.
- G. Guard Division.
- Gds. Guards.
- M. Moroccan Division.
- D.M. Moroccan Division.
- L.H. ...
- Lr. Landsturm Division.
- N. Naval Division.
- N.Z. New Zealand Division.
- P.I. Portuguese Division.
- R. Reserve Division.
- U.S. U.S. Division.
- Bg. Brigade.

⸻ Fresh Divisions: Black
⸻ Tired Divisions: Red
★ U.S. Divisions not in U.S. Sector

Belgian Front
British Front
French Front
U.S. Front

Note: Divisions shown in a box are not localized.

D.I.C. Division of Colonial Infantry

Copy No.

STATUS OF DIVISIONS ON THE WESTERN FRONT

ARMIES	IN LINE			IN RESERVE			TOTAL ARMEE DIVISIONS
	FRESH	TIRED	TOTAL	FRESH	TIRED	TOTAL	
U.S.	4	12	16	3	11	14	30
FRENCH	19	17	36	19	53	72	708
BRITISH	3	24	29	6	29	35	64
BELGIAN	3	1	4	2	1	3	7
ITALIAN	1	0	1	0	2	2	2
PORTUGUESE	1	0	0	0	2	2	2
TOTAL ALLIES	32	54	86	32	35	127	213
GERMAN	47	97	144	2	35	41	185

NOTE: U.S. divisions more than twice as large as other divisions.

Crown Prince of Bavaria
H. von Armin
German Crown Prince
von Carlowitz
von Hutier
von Eben
von Below
von Mudra
von der Marwitz
von Gallwitz
von Christian

Rawlinson
Byng
Horne
Birdwood
Plumer
King Albert
Degoutte
Berthelot
Gouraud

NEDERLAND
BELGIË
ENGELAND
DUITSCHLAND

A map with various overlaid tables and legends.

Labels on map (names of commanders/armies, in red script):
Duke Albrecht of Wurtemberg · von Boehn · von Fuchs · der Marwitz · von Hutier · Gerard · Bullard · Liggett · Gouraud · GénlII Debeney · GénlII Mangin · Débeney

PERSHING · MAISTRE · FAYOLLE

STATUS OF U.S. DIVISIONS						
	IN LINE			IN RESERVE		TOTAL DIVISIONS
ARMY	FRESH	TIRED	TOTAL	FRESH	TIRED	TOTAL

Allied and German G. in C.
U.S., French, English and Belgian GHQ
Headquarters, Group of Armies
Headquarters, Army

DISSOLVED GERMAN DIV'S	
DIV.	DATE
6 R	July 16
101 Lw	July 28
285	Aug 29
145 R	Aug 29
108	Aug 30
78 R	Aug 30
47 R	Aug 31
33 R	Sept 1
211	Sept 9
103	Sept 13
242	Sept 27
54 R	Sept 29
222	Oct 1
14 Ld	Oct 2
223	Oct 12
225	Oct 12
12 Lw	Oct 8
183	Oct 8
32 R	Oct 10
53 R	Oct 14
242 R	Oct 18
8 L	Oct 23
71 R	Oct 23
20	Nov 4
191	No date

Figure 17

Figure 18. *Information from captured German maps, prisoner's statements, and recent aeroplane photographs : [Sommerance region]*.

Infantry commanders received copies of this map that identified German positions. A notice on the map reads: "Information from captured German maps, prisoner's statements and recent aeroplane photographs." The map notes artillery and machine gun emplacements. Behind the German trench line sits the *Kriemhilde Stellung*. It was a portion of the larger Hindenburg Line that was a vast system of defenses in northeastern France. The Germans used Russian prisoners to construct the line during the winter of 1916–17. From map: "For the last two months men have been working on these trenches; deepening them and building deep dugouts capable of housing fifty to one hundred men each."

Figure 19. "Planmaterial der 3. Armee…" *From [Maps showing World War I campaigns in northern France around Verdun at various dates].*

An example of a German-produced map of the complex trench networks situated at Verdun, France. Following its defeat in the campaign by French forces in 1916, German forces adopted a defensive posture. They are depicted in blue; the Allied troops are in red. The sheet is part of a set that frequently was updated to show the changing trench lines.

Figure 20. *[Map showing trenches and observation posts in eastern region of Sommerance].*

      This Map bears the title *Kriemhilde Stellung,* which was the German defensive line that stretched from Reims to near Verdun. From map: "Trenches shown in heavy lines have been deepened or worked on recently." The newly constructed defenses reflected the German High Command's strategy to contain the presence of American troops whose presence gave numerical superiority to the Allies.
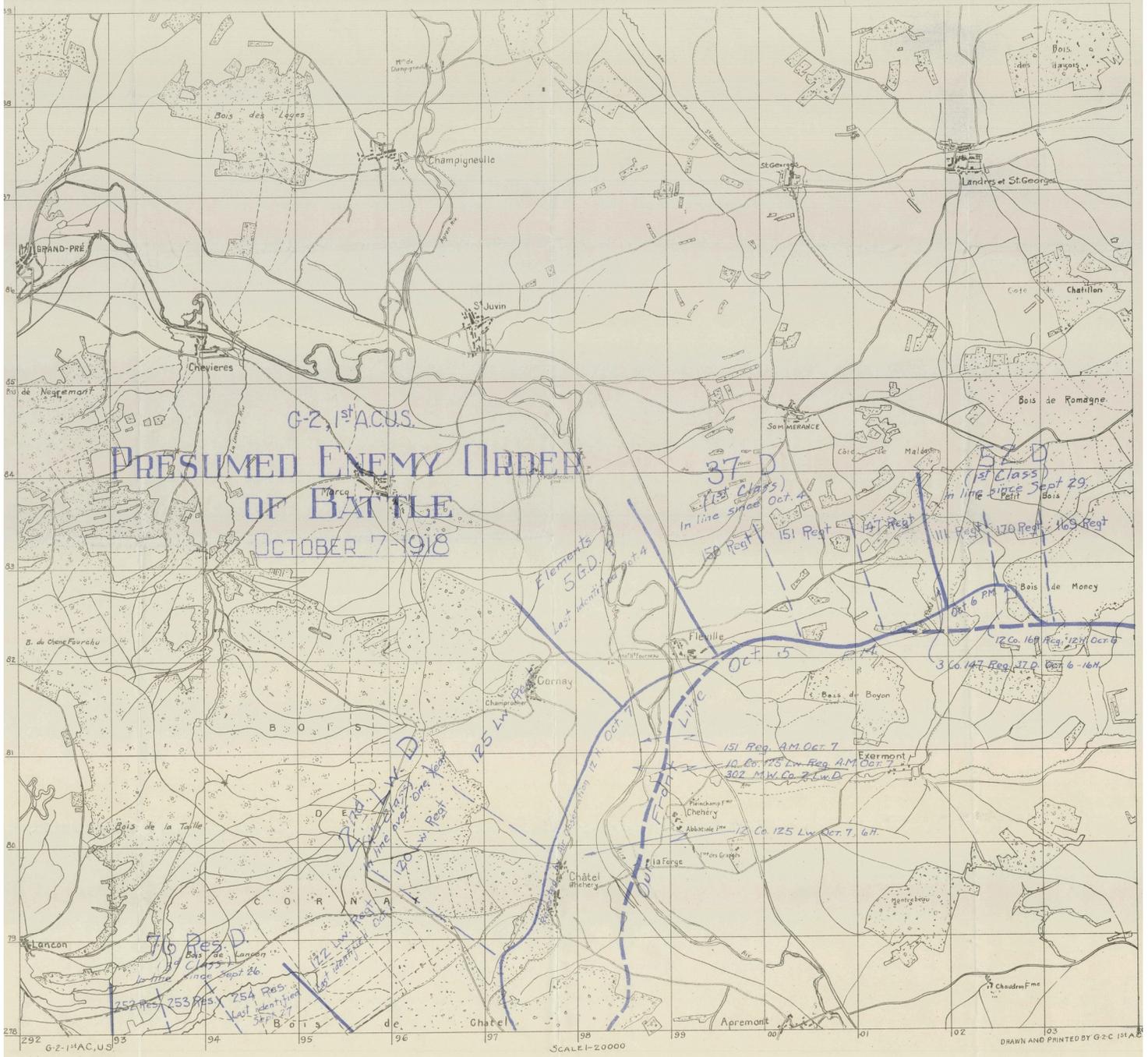
Figure 21. *Presumed enemy order of battle, October 7, 1918 : [Sommerance region].*

American intelligence depicted the German positions in Sommerance, France as of October 7, 1918. German forces are classified by their quality of fighting skill; the best are ranked as first class and poorest groups as fourth class. Units are broken down into division and then regiment. The duration of time a unit has spent on the front line is stated, as it could supply planners with information about its combat effectiveness or war weariness. Territory seized as a result of an American minor attack on October 6 is shown.

Germany Severed, Disarmed, and Occupied

Figure 22

Conclusion

During World War I, military mapping had grown by leaps and bounds. Full-scale operations, involving mobile printing presses, had produced millions of maps that were needed for infantry assaults, artillery bombardments, and all other operations. Once finely tuned, the map-making process involved exploiting a data collection network with many tentacles that included information derived from aerial photography, scouts, captured maps, and prisoners of war. The intelligence was filtered from data collectors to analysts, who passed it on to mapmakers. This complex process ensured that even the most junior officers had reliable maps. More than any other time in history up to that point, soldiers knew the enemy's location, its strength, the character of the ground the enemy held, and the ground that had to be taken. The modern military map proved that with knowledge one had deadly power. No one could agree more than the 65 million men who had been called to fight, and 15 million of whom had become casualties. The Great War involved a staggering toll of death and mayhem. It was a conflict unlike any that had gone before; moreover, it proved maps and modern warfare were inseparable.

Following the war, Allied policymakers faced the daunting task of redrawing borders in a way that would ensure a lasting peace. Dealing with the defeated Central Powers, in particular Germany, was a contentious issue amongst the Allies. Negotiators debated heavily and at length over the extent to which Germany would be punished, how much it would pay in reparations, the amount of territory it would concede, and how large a military it would be permitted to have. Germany was shocked by the final settlement. The German army was reduced to a 100,000 man territorial defense force. Thirteen percent of its territory was severed, totaling more than 33,000 square miles. Millions of ethnic Germans were forced to live under Czechoslovakian and Polish governments, which amounted to roughly ten percent of its population.

The Rhineland, the German industrial heartland, was demilitarized and occupied by Allied troops. German colonies in Africa and the Pacific were divided among the victors. A period of seemingly endless political, social, and economic strife followed inside Germany until Adolf Hitler took power in 1933.[17] Germany's allies, the Austro-Hungary Empire and the Ottoman Empire, had literally disappeared from the map; while Bulgaria lost significant portions of territory.[18] **Figure 22**

After four years of war, the world had changed radically. The number of states in Europe increased from twenty-six to thirty-eight. More than 30 million ethnic minorities were displaced and forced to live outside of their homelands. Worldwide, the total length of international borders increased by 12,500 miles. Interest in the peace proceedings captured the imagination of the world, and publishers like Rand McNally printed thousands of copies of maps that illustrated the world's newest countries and redrawn boundaries. [19]

In closing, maps served as a means of making war and peace, as well as a window into understanding those momentous events— both then and now.

Map Figures and Illustrations

Cover: *Historical Map American Expeditionary Force* / Ezra C. Stiles, cartographer and Paul C. Bowman, historian. Pittsburgh, Pa.: Herbick & Held Printing Co., 1932, from Library of Congress American Memory.

1. *"Enlist in the 472nd Engineers. Surveying, mapping reproducing military and aerial maps. Surveyor- Topographers- Computers- Photographers lithographic- Topograding- Draftsmen. Address commanding Officer, 472nd Engineers, 7th and B Street, Washington, D.C,"* from National Archives and Records Administration, Still Picture Records Section, Special Media Archives Services Division (NWCS-S).

2. *Subject nationalities of the German alliance: from the Allies' peace terms as stated in their reply to President Wilson's note of 19th Dec. 1916 : [Eurasia],* from G&M collection.

        The map shows the territory and peoples that were under the control of Germany and its allies; together they were known as the Central Powers. The map includes text, statistics, and tables showing populations by nationality.

3. "War of the Races" from *The War of the Nations,* (New York, 1919), from Library of Congress American Memory.

4. "Sketch 2. French Concentration," folder 41, from *Tasker Bliss Collection.*

        This map is a simplified illustration of the German Schlieffen Plan in which the Kaiser's forces flanked the French army by sweeping through Belgium before turning towards Paris. The German and French order of battle is represented.

5. "Transportstrassenkarte fuer den Aufmarsch West und Ost," from *Das Deutsche Feldeisenbahnwesen,* from G&M collection**.**

        The map depicts Germany's extensive railroad network that in large part was designed for the rapid transport of troops between its western and eastern borders. The routes for moving troops and artillery of Germany's *2nd Armee* is illustrated. This force took part in the 1914 attack on Belgium. Later, in 1916, it bore the brunt of the Allied attack in the Battle of the Somme.

6. *Situation le 9 septembre 1914 au moment ou le commandement allemand ordonne la retraite de l'aile droite et du centre: [France], from G&M vault**.***

        A hand-drawn map showing how the French and British armies mounted a counterattack at Marne to stop the German attack. Paris was saved and four years of stalemate on the Western Front followed.

7. "Probable Route to Alert Positions…" Folder 3: Maps to Accompany Summary of Operations First Army, August 9 - November 11, 1918, from *Summerall Collection.*

The confusing matrix of trench lines and shifting enemy dugouts made up-to-date tactical maps a necessity for junior officers. Maps would be frequently amended using information from prisoners and aerial photography.

8. *Position of batteries & units of fire: [Stenay],* from G&M vault.

An artillery grid that shows the effective range of light to heavy guns. This fire plan was created for supporting an assault across the Meuse River on the morning of November 11,1918, which was the last American attack of the war, just hours before the Armistice was to take effect.

9. "Plan of attack St. Mihiel Operation…" Container 13: U.S. Army First Division…, from *Summerall Collection.*

An example of creeping or rolling barrage, a later tactical development in the war, whereby the artillery barrage rolled forward according to a fixed timetable, and the infantry followed behind the "fire curtain" that would be "lifted" when the final target was reached.

10. *"Monster Guns in Use by American Forces in Argonne"* from *The War of the Nations,* (New York, 1919), from Library of Congress American Memory.

11. "A German Illustration of 'Freedom of the Seas' in War Time," from G&M Title Collection, *Europe: World War I, 1915*.

A newspaper map of the era, likely the *Times of London,* that used maps to provide both information and propaganda. It illustrates the German naval "exclusion zones" where U-boats would fire without warning.

12. *Commerce raiders, 1914-1915* – "Cruise of the Commerce Raider '*Emden,*'" from G&M atlas collection.

The *SMS Emden* was a German cruiser based in Tsingtao, China, along with other ships of the East Asia Squadron. At the outbreak of war, the ship's daring captain, Karl von Mueller, broke off from the main body, which was headed back to Germany, and raided Allied commerce in the Indian Ocean. Mueller employed camouflage and night raids to great success. He captured or sank some 30 Allied ships and terrorized ports. British Naval Intelligence created this chart to track the Emden's whereabouts.

13. [Battle of the Jutland], Malby & Sons Ltd., London, 1916, from G&M Title Collection, *Europe World War I, 1915*.

One of nineteen maps that depict the Battle of the Jutland. Publisher Malby & Sons produced these maps to explain the war's largest naval battle to the public.

14. "The Submarine on Whose Ruthless Employment…" from *The War of the Nations,* (New York, 1919), from Library of Congress American Memory.

15. "Map on Cardboard," folder 10, from *Prince Collection.*

Willard B. Prince's photographic analysis of a river crossed by the Fifth Division in 1918. The photograph has annotations by Prince that indicate where German forces were positioned, the point of the American crossing, and damaged homes.

16. *Meuse-Argonne offensive, map showing daily position of front line: Map Room G-3, G.H.Q., May 24, 1919,* from *Summerall Collection.*

This map depicts the Meuse-Argonne Offensive, also known as the Battle of the Argonne Forest. The engagement lasted from September 26, 1918, until the Armistice on November 11. During these 47 days, more than 1.2 million American soldiers went into action. It was the principal engagement of the AEF. The map was produced in 1919 to document the AEF's history.

17. "Order of Battle on Western Front 11 .A.M., Nov. 11, 1918,*"* from the *Tasker Bliss Collection*.

18. "Information from captured German maps, prisoner's statements, and recent aeroplane photographs: [Sommerance region]," from *Summerall Collection.*

19. "Planmaterial der 3. Armee…"*[Maps showing World War I campaigns in northern France around Verdun at various dates],* from G&M collection.

20. *[Map showing trenches and observation posts in eastern region of Sommerance],* from G&M collection.

21. *Presumed enemy order of battle, October 7, 1918 : [Sommerance region],* from G&M collection.

22. "Partition of Germany," from *Concise Peace Atlas,* from G&M atlas collection.

Back cover: *Map of hostile airdromes: [France],* from G&M collection.

Map shows German airfields colored in red and black. Airfields, like artillery, were frequently relocated to safeguard against enemy attack.

Endnotes

1. Hew Strachan, *The First World War* (New York: Viking, 2003), 177.

2. Peter Chasseaud, *Artillery's Astrologers: A History of British Survey and Mapping on the Western Front, 1914-1917,* (Lewes, U.K.: Mapbooks, 1999), 1-5.

3. Jeffrey S. Murray, "In the Trenches: British surveyors made a crucial contribution during World War I – an accurate map of the battlefield," *Fine Books & Collections,* 52, (2010), 3.

4. *Ibid.*, 3-4.

5. *Ibid.*, 2.

6. Chasseaud, *Artillery's Astrologers,*196-198.

7. Murray, "In the Trenches,*"* 3.

8. *Ibid.*, 3-4.

9. John Walter, *The Kaiser's Pirates: German Surface Raiders in World War One,* (Annapolis: Naval Institute Press, 1994), 69, 85.

10. Strachan, *First World War,* 225.

11. Barbara W. Tuchman, *The Zimmermann Telegram,* (New York: Ballantine, 1994), 77.

12. George B. Clark, *The American Expeditionary Force in World War I : a statistical history, 1917-1919*, (Jefferson, North Carolina : McFarland & Company, 2013), 54.

13. Chasseaud, *Artillery's Astrologer,* 498-499.

14. Willard B. Prince, Folder 4: "Told from the Inside by former Regimental Sergeant Major W.B. Prince," Folder 5: "Reminiscence of a Topographical Man," and Folder 18: "Scrape book small map and note: 'Red line shows our course into the Argonne,'" [*The Willard B. Prince Collection of World War I maps and other related cartographic materials]*, Held by the Library of Congress Geography and Map Division.

15. *Ibid.*, "Told from the Inside."

16. *Ibid*.

17. Margaret MacMillan, *Paris 1919: Six Months that Changed the World*, (New York: Random House, 2001), 465.

18. *Ibid.*, 486.

19. Wesley J. Reisser, "Mapping for Peace: The American Inquiry and the Paris Peace Conference, 1918-1919," *The Portolan*, 71, (Spring 2008), 17.

Cartobibliography

—Special Collections

1. [Tasker Howard Bliss collection of World War I maps and other related graphic materials]. 234 pieces (chiefly col. maps, some with ms. additions): some photocopies; 188 x 125 cm. or smaller. 2004627137

Consists principally of color and black-and-white maps of Europe during the period of World War I and the succeeding Paris Peace Conference of 1919. Some of these are annotated with ink or colored pencil. There are various maps related to Asia and Turkey, as well as miscellaneous maps of Texas, Wisconsin, and the District of Columbia. The collection also includes photocopied aerial views (many negative) of ancient cities and fortresses, in addition to diagrams, illustrations, statistical tables, a paperbound atlas (Europe and the Near East showing newly redrawn international boundaries), a photograph, and various typewritten sheets. Some map sheets have a typewritten text affixed to the recto.

G5701.S65 coll .B5

2. [Charles Pelot Summerall collection of maps, primarily showing First World War battles and campaigns in France]. 96 maps : some color, some manuscript ; various sizes. 2013591430

This collection contains maps from the *Charles Pelot Summerall papers* that have been transferred from the Manuscript Division of the Library of Congress, which includes manuscript maps of tactical operations in Meuse-Argonne, Saint Mihiel, and Verdun. The collection also includes maps of Camp Zachary Taylor, Fort Bragg, and southeastern United States ports.

G5831.S65 .M3

3. [Willard B. Prince collection of World War I maps and other related graphic materials]. ca. 366 pieces (chiefly maps, ms. maps, mss.) : printed items, photocopies, some col. ; on sheets 90 x 132 cm. or smaller. 2007627349

Prince was a regimental sergeant assigned to U.S. Army's Fifth Division's Topographical Unit. In addition to his maps of the Fifth Division's engagements, his collection contains diaries, photos, and other personal documents.

G5831.S65 coll .P7 Vault : Prince

4. La Dalmazia; cenni geografici e statistici, illustrati da 32 figure fuori testo con un atlante di 22 tavole a colori comprendenti 60 carte. (Instituto Geografico de Agostini, 1918). Dainelli, Giotto, 1878-1968. 73 p., 1 l. incl tables. plates. 25 cm. and atlas of XXII maps (part fold.) 39 cm. 19009991

This atlas was prepared by the Italian geologist and geographer, Giotto Dainelli, a later supporter of Mussolini's Fascist regime and its imperial enterprises. The work depicts vegetation, water, natural resources and other features. At the time of publication, Italy was determined to seize Dalmatia per the secret Treaty of London, which was signed in 1915 by Italy, England, and France.

G2032.D3 D3 1918 fol.

5. Carte du théâtre des opérations à l'échelle du 500,000e. France. Armée. Service géographique. 2 v. fold. col. maps. 32 cm. unk82007213

French military gazetteer with maps of the war, depicting both the western and eastern fronts where French troops were engaged in action.

G1037 .F7 1916

6. Commerce raiders, 1914-1915. Great Britain**.** Naval Intelligence Division. [1] l., 8 col. maps. 64 x 76 cm. map56000614

Map figure 12.

G1037 .G73 1917 (Map)

7. Commerce raiders, 1916-1917. Great Britain. Naval Intelligence Division. [1] l., 3 col. maps. 64 x 76 cm. map56000615

G1037 .G732 1917 (Map)

8. Concise peace atlas, containing President Wilson's peace conditions, peace conference who's who, disposition of former German colonies, war cyclopedia, dates of notable battles, approximate value of foreign coins .... Rand McNally and Company. 16 p. incl. 10 col. maps. 26 cm. unk81055307

Map figure 22.

G1037 .R34 1919 (G&M)

9. Report of the First Army A. E. F. United States. Army. A. E. F., 1917-1920. 1 v. (14 plates of col. maps) 25 cm. unk82096336

       Post-action studies of the Meuse-Argonne and St. Mihiel offensives. It shows the locations of military units and includes a "Secret Operation Map."

G1037 .U48 1923

10. World war records; First division, A. E. F., regular. United States. Army. 1st Division. 1 v. and atlas 36 cm. 28027895

       Set of battle maps, charts, and sketches.

G1037.U52 1928 Atlas / D570.3 1st .A4 Atlas

11. World war records. First division, A. E. F., regular German documents. United States. Army. 1st Division. 4 v. illus., maps, tables. 36 cm. and atlas. 44 x 50 cm. 34000367

       Reproductions of maps, charts and translated German documents. Plates: I. Sommerville, Ansauville and Cantigny sectors -- II. Aisne-Marne (Soissons) -- III. St. Mihiel offensive -- IV. Meuse-Argonne.

G1037.u53 1930 folio

12. Carte del teatro di guerra italo-austriaco. Istituto geografico militare (Italy). 3 pts. (in portfolio) 17 col. maps (part fold.) 50 x 64 cm. map5500068

       Maps showing the Italian front with Austro-Hungarian Empire in March 1917.

G1985 .I83 1917

13. Pacific colonies of Germany. Churchill, William. 11 col. maps ; cm. unk82080196

       Maps of German colonies in Asia from their beginnings in 1880 until their dispossession in 1919. One of the set shows American interests in the Pacific.

G2860 .C5 1918

Maps by Call Number

—United States

14. Map of Black Tom Island, Jersey City, New Jersey: showing area damaged by explosion and fire, July 30th 1916. Sanborn Map Company. 2010588272

This map by the Sanborn Fire Insurance Map Company illustrates the damage inflicted on American ammunition storage facilities, industrial plants, warehouses, railroad tracks, wharves, and piers by German saboteurs.

G3814.J5:2B5S65 1916 .S3

 —Mexico

15. Outline map of Mexican Border. United States. War Dept. General Staff. War College. 1 map ; 45 x 214 cm. 98686049

Map depicts the international boundary between the United States and Mexico; it was created during a time of rising tensions between the two nations, which reached its apex when Pancho Villa raided an American border town and was pursued into Mexico by American troops.

G3701.F2 1916 .U6 TIL

—Europe

16. Subject nationalities of the German alliance: from the Allies' peace terms as stated in their reply to President Wilson's note of 19th Dec. 1916 : [Eurasia]. 1 map : col. ; 71 x 92 cm. 2004628224

Map figure 3.

G5691.E2 1910 .S9

17. Eastern Front campaigns. col. map 36 x 23 cm. 77697237

Depicts battle lines from 1914 to 1916, involving Russian, Austro-Hungarian, and German forces, along with units of minor nations.

G5701.S65 1917 .E3

18. The Daily telegraph map of Europe / by Alexander Gross; produced by "Geographia" Ltd. Gross, Alexander, 1879-1958. 1 map : col. ; 74 x 96 cm. fold. in cover 22 x 13 cm. "From the papers of Oscar Terry Crosby." 79695138

Commercially produced map that depicts major battle lines and occupied territories.

G5701.S65 1919 .G7

19. Sektion Europa. maps : both sides of some sheets, col. ; 56 x 72 cm. "Geheim!; Stabsaus-gabe!; Nicht in die vordere Linie nehmen; Darf in die vorderste Linie nicht mitgenommen werden!" 92680720

Tactical situation maps created by the Austro-Hungarian Army that include artillery plans and enemy positions.

G5701.S65 s25 .S4

20. Meine Kriegserinnerungen 1914-18: [Europa]. Ludendorff, Erich, 1865-1937. 10 maps ; sheets 67 x 57 cm. or smaller. "Zu: Ludendorff, Meine Kriegserinnerungen 1914-18." 92680566

Reproductions of maps possessed by Erich Friedrich Wilhelm Ludendorff, Quartermas-ter General of the German Army and joint leader, with Paul von Hindenburg, of the German military during the War. Plates: Karte I. Tannenberg, 1914 -- Karte II. Die Schlacht an den Ma-surischen Seen, 1914 -- Karte III. Der Feldzug in Südpolen, Herbst 1914 -- Karte IV. Der Feld-zug in Nordpolen, Herbst 1914 -- Karte V. Die Winterschlacht in Masuren -- Karte VI. Der Sommerfeldzug gegen Russland, 1915 -- Karte VII. Übersichtskarte über den Weltkrieg -- Karte VIII. Der Feldzug gegen Rumänien, 1916 -- Karte IX. Der deutsche Angriff im Westen 1918 -- Karte X. Deutsche Rückzugsbewegungen 1918.

G5701.S65 svar .L8

21. Skeleton map of Western Europe. Great Britain. War Office. General Staff, Geographical Section. col. maps 54 x 71 cm. unk83003993

Map depicts railways in black and principal roads in red. It also identifies "fortresses" in France, Belgium, and Germany.

G5720 s500 .G7

22. [Map of World War I western-front military actions in Europe, 1914-1918] / prepared by G2-A3. Great Britain. War Office. G2-A3. 1 map : col., cloth backing ; 265 x 253 cm. Removed from the Francis LeJau Parker Papers in LC Manuscript Division. 89694311

Map is extensively annotated in colored ink and crayon to show British, French, and German military lines and action.

G5721.S65 1918 .G7 MLC Vault

23. Westlicher Kriegsschauplatz 1914: Wiedergabe der französischen Generalstabskarte: [Europa]. maps on sheets : photocopies, some hand col. ; sheets 51 x 66 cm. "War College Division, Map Section." 92680719

This set of maps illustrates French and German trench lines in 1914. The base maps were created by the French General Staff.

 G5721.S65 s200 .W4

 —France

24. Carte-guide Campbell : [France]. < > maps : col. ; 93 x 95 cm. or smaller. "Stanford's Geogl. Estabt., London." 2009583011

Commercial maps made to illustrate the war in France.

G5831.P2 s250 .B51

25. Wettlauf um die Flanke 1914: [Frankreich]. Bayerisches Kriegsarchiv in München. 29 maps : col. ; 37 x 36 cm. or smaller. "Bayer. Kriegsarchiv, Wettlauf um die Flanke 1914." 91685768

These maps depict campaigns in northern France near Belgium in the regions of Lille, Douai, Arras, Lens, Peronne, and Avion.

G5831.S65 svar .B3

26. Deutsche Stellungen, Ende Dezember 1914: Orte grösserer Gefechte in der ten Hälfte des Dezember 1914: [France]. 1 map ; 41 x 27 cm. Text on verso. 2006459192

The map shows the locations of German units at the end of December 1914.

G5831.S65 1914 .D4

27. Location of headquarters of units in 26th, 29th & 82nd Divs. (5th Corps): [northeastern France]. 1 map : ms., col. ; on sheet 90 x 47 cm. Summerall Papers. 92684148

The map depicts various American headquarters in Troyes, France. It lists engineer encampments, machine gun emplacements, and armored units.

G5831.S65 1918 .L6 Vault

28. Meuse-Argonne offensive, map showing daily position of front line: Map Room G-3, G.H.Q., May 24, 1919. 1 map : col. ; 84 x 72 cm. Summerall Papers. 92684037

Map figure 16.

G5831.S65 1918 .M4

29. St. Mihiel offensive, map showing daily position of front line: Map Room G-3, G.H.Q., May 24, 1919. maps : col. ; 51 x 80 cm., some folded to 17 x 12 cm. 92684036

Southeast of Verdun, the AEF and one French corps command by General John J. Pershing attacked German positions at St. Mihiel from September 12-16. The attack caught the Germans in the midst of a retreat and was more successful than anticipated, which is represented in this reprinted battle map.

G5831.S65 1918 .S8

30. [Maps showing entrenchments in France during the World War I, 1916-1918]. France. Armée. Service géographique. maps: some col. ; 100 x 100 cm. or smaller. "Secret." 92680725

Trench maps showing Allies in red and Central Powers in blue.

G5831.S65 s10 .F7

31. Trench map. [France and Belgium]. Great Britain. Ordnance Survey. maps: some col. ; 50 x 80 cm., some folded to 17 x 12 cm. 92680726

These are highly detailed maps of trench lines. Upper right corner indicates date of map revision for military intelligence purposes. Indexes are printed on the back of some sheets.

 G5831.S65 s10 .G7

32. Enemy order of battle 1918: [France] / G-2 First Army, A.E.F. United States. Army. American Expeditionary Forces. maps : some col. ; 66 x 98 cm. or smaller. Summerall Papers. 92680855

These maps illustrate campaigns between October and November 1918. It includes a legend describing how intelligence was obtained.

G5821. S65 .M3

33. [Maps showing entrenchments in France during the World War I, 1918]. France. Armée. Service géographique. maps : some col. ; 100 x 100 cm. or smaller, in 2 portfolios 77 x 58 cm. "Secret." 92680721

G5831.S65 s20 .F7

34. Trench map: France. Great Britain. Ordnance Survey. 92680724

Annotated maps showing German and British trench lines.

G5831.S65 s20 .G7

35. Map of hostile airdromes: [France]. maps : col. ; 73 x 80 cm. or smaller. 92686650

Map figure back cover

G5831.S65 s200 .M3

36. [Maps showing World War I campaigns in northern France around Verdun]. maps : col. ; 40 x 40 cm. 92680718

Map figure 18.

G5831.S65 s25 .M3

37. Meuse-Argonne operations / prepared by G.2.C. United States. Army. Corps of Engineers. G.2.C. maps : col. ; 84 x 85 cm. or smaller. Summerall Papers. 92684029

Set shows tactical-level operations in the Meuse-Argonne offensive. Plates: Plate IA. German divisions engaged, Sept. 26th to 29th inc. -- Plate IIA. German divisions engaged Oct. 4th-16th -- Plate III. Kriemhilde Stellung : September 29, 1918 -- Plate IIIA. German divisions engaged Nov. 1st-6th, 1918 -- Plate IV. Areas photographed by observation group, 5th Army Corps, air service -- Plate IVA. Order of battle, Nov. 10, 1918 : presumed except for 31st, 88th, 236th, and 27th divisions which were engaged on Nov. 10th-11th -- Plate V. Artillery objective & infantry assault map, G-2, October 30, 1918 -- Plate VI. Stenay special.

G5831.S65 s50 .U5

38. Cours d'emploi des armes: croquis: [France]. Ecole spéciale militaire de Saint-Cyr. 19 maps : col. ; on sheets 51 x 49 cm. or smaller, folded in cover 37 x 27 cm. 91685883

A set of combat studies by the French military.

G5831.S65 svar .E2

39. [Maps showing World War I campaigns in northern France around Verdun]. 33 maps : some ms. ; 101 x 170 cm. or smaller, in portfolio 67 x 88 cm. 92680718

Maps of German combat actions in France, including Verdun; annotated in German. Maps are from various publications and manuscripts. Index map: "Kartenmaterial der Festungs -Vermessungs-Abteilung Nr. 3" is mounted inside the portfolio.

G5831.S65 svar .M3

40. St. Mihiel operations / prepared by G.2.C. Corps. United States. Army. Corps of Engineers. G.2.C. maps : some col. ; on sheets 96 x 99 cm. or smaller. 92684030

A set of reproductions that show combat operations in and around St. Mihiel, France. Plate II. St. Mihiel Operations -- Plate III. Occupation -- Plate IV. Disposition of enemy defensive weapons and dugouts --. Plate V. Translated from German: "Very secret position of Army Detachment "C" as of March 20, 1918" -- Plate VI. German divisions engaged.

G5831.S65 svar .U5

41. Map to illustrate the Meuse-Argonne Offensive: first, second, and last phases. 1 map : col. ; 72 x 62 cm., folded to 13 x 19 cm. 92686657

From map: "Map to accompany Report of the Commander in Chief, November 20, 1918."

 G5832.A735S65 1918 .M3

42. Situation le 5 septembre 1914 la veille de la Bataille de la Marne: [France]. 1 manuscript map: color; 23 x 65 cm. 201158864

A map drawn by hand depicting the beginning of the Battle of the Marne in September of 1914.

G5832.M3S65 .S5 Vault

43. Situation le 9 septembre 1914 au moment ou le commandement allemand ordonne la retraite de l'aile droite et du centre: [France]. 1 manuscript map : color ; 22 x 34 cm. 2011588649

Map figure 6.

G5832.M3S65 .S52 Vault

44. Front Lorraine et Alsace. 1 map : col. ; 54 x 41 cm. 92686610

Map shows the front line at Alsace-Lorraine in January of 1916.

G5833.A4S65 1916.MLC Vault

45. Front de Lorraine / VIIIe Armée, Etat Major, 2e Bureau. France. Armée. Armée, 8e. Etat-Major. Bureau, 2e. 92684032

This French map depicts trench lines near Nancy in September 1918. Bolder lines represent stronger positions.

G5833.L65S65 1918 .F7 Vault

46. Cumières 1/10,000 / traced and reproduced at Army General Staff College, A.E.F. Army General Staff College (U.S.) 1 map : col. ; 70 x 97 cm. Summerall Papers. 92684139

Map depicts entrenchments in western region of Cumière.

G5834.C977S65 1918 .U5

47. [Map of World War I military actions and positions in the vicinity of Péronne, Somme Department, France]. 1 map : cloth backing ; 80 x 191 cm. Francis LeJau Parker Papers. 89694318

Extensively colored pencil annotations on printed base maps.

G5834 .P45S65 1918 .M3 Oversize

48. Rémonville / prepared & printed by G.2.C. United States. Army. Corps of Engineers. G.2.C. 1 map : col. ; 80 x 55 cm. Summerall Papers. 92684039

Map depicts trenches, batteries, machine guns, ammunition dumps, observation posts, dugouts, and other tactical features.

G5834.R283S65 1918 .U5

49. Map to illustrate the offensive of the St. Mihiel salient. 1 map: col. ; 42 x 54 cm. "To accompany report of the Commander in Chief, November 20, 1918." Summerall Papers. 92684034

Map shows American battlefield operations in St. Mihiel.

G5834.S3418S65 1918 .M31

50. St. Mihiel operations, First American Army, Sept. 12-15 / prepared & printed by G-2-C, IX Corps. United States. Army. Corps of Engineers. G.2.C. Corps, IX. 1 map : col. ; 50 x 81 cm. Summerall Papers. 92684140

Map shows American battlefield operations in St. Mihiel.

G5834.S3418S65 1918 .U5

51. Information from captured German maps, prisoner's statements, and recent aeroplane photographs : [Sommerance region]. United States. Army. Army Corps, 1st. G.S. Second Section. 1 map : col. ; 56 x 61 cm. Summerall Papers. 92684150

See map figure 17.

G5834.S86S65 1918 .U5

52. [Map showing trenches and observation posts in eastern region of Sommerance]. United States. Army. Army Corps, 1st. G.S. Second Section. 1 map : col. ; 55 x 85 cm. Base map: Kriemhilde Stellung. Summerall Papers. 92684151

Map figure 19.

G5834.S86S65 1918 .U51

53. Presumed enemy order of battle, October 7, 1918: [Sommerance region]. United States. Army. Army Corps, 1st. G.S. Second Section. 1 map : col. ; 55 x 61 cm. Base map drawn and printed by G-2-C, 1st A.C.U.S. Summerall Papers. 92684152

Map figure 20.

G5834.S86S65 1918 .U52

54. Position of batteries & units of fire: [Stenay]. 1 map: ms., col., tracing ; 80 x 80 cm. Summerall Papers. 92684226

Map figure 8.

G5834.S885S65 1918 .P6 Vault

 55. Thiaucourt. United States. Army. Division, 7th. 1 map : col. ; 53 x 70 cm. + legend sheet ([1] sheet : col., ms. ; 22 x 23 cm. Title on accompanying legend sheet: Situation map, 7th Division, Oct. 11, 1918. "Printed at Base Printing Plant 29th Engineers, U.S. Army, 1918."

Extensively annotated in colored pencils and inks, the map depicts battlefield positions and military installations.

G5834.T315S65 1918 .U5 MLC

56. Schéma des fronts successifs, nord de Verdun, 20-26 août 1917 / Groupe de canevas de tir. France. Armée. Groupe de canevas de ti. 1 map : col. ; 50 x 70 cm. "Tirage du 13 août 1917." 92686617.

Map shows the military situation at Verdun in August 1917.

G5834.V35S65 1917 .F4 MLC

57. [Map of operations, September 26 to October 20, 1918, showing objectives, boundaries, and advances: region northwest of Verdun]. United States. Army. Army Corps, 1st. G.S. Second Section. 1 map : col. ; 50 x 81 cm. Summerall Papers. 92684149

Map shows Allied advance during the Meuse-Argonne offensive.

G5834.V35S65 1918 .U5

—Belgium

58. [Map of World War I battle positions in the Bruges region, Belgium]. 1 map : col. ; 58 x 107 cm. Manuscript, blue pencil; on Great Britain G.S.G.S. topographic base maps. 80691199

Map illustrates the positions of docked German warships and shore batteries located in Ostend, Belgium during April 1918. The report was made prior to the British raids on Ostend and Zeebruggee. Listed German warships include: *Kaiserin* (Kaiser-class battleship), *Goeben* (Moltke-class battle cruiser), *Tirpitz* (Bismarck-class battleship), *Hindenburg* (battle cruiser), and *Deutschland* (raiding cruiser).

G6014.B8S65 1914 .M3 Vault

—Germany

59. Das Deutsche Feldeisenbahnwesen. 22 maps on 10 sheets : some col. ; 75 x 84 cm. or smaller, sheets 78 x 89 cm. or smaller. "Zu Das deutsche Feldeisenbahnwesen. Band I." 91685772

Map figure 5.

G6081.P3 svar .D4

60. [Maps showing harbors in Germany]. Great Britain. Admiralty War Staff. maps : some col. ; 85 x 98 cm. or smaller. "O.S.O. 1915."   91683762

An incomplete set of maps showing German harbors and naval installations. Plates: 4 . Emden and harbour -- 8B. Map of district north of Hamburg -- 11. Wilhelmshaven -- 14. Hamburg, plan of port ; Hamburg shipyards ; Harburg [3 maps on 1 sheet] -- 15. Hamburg, plan of town.

G6081.P55 svar .G7

61. Map of hostile airdromes, August 2, 1918: [Mannheim region]. 1 map: col. ; 72 x 80 cm. "Printed at Base Printing Plant, 29th Engineers, U.S. Army." 92685985

Map shows German airfields and support bases.

G6299.M3S65 1918 .M3

62. Situation map, IV Army Corps, Dec. 20/18: [Rhineland-Palatinate]. 1 map : ms., col. ; on sheet 172 x 121 cm. Summerall Papers. 92684144

Map shows the military situation in the region south of Bonn, west of the Rhine River, and northeast of the Mosel River.

 G6391.S65 1918 .S5 Vault

63. [Ruhr Operations March-April, 1920]. 4 maps : col. ; 111 x 91 cm. or smaller. 2012588843

Map of *Reichswehr*, postwar German military, operations against Communist-led militia uprising in the Ruhr, which was prepared by the German government and annotated heavily by U.S. military intelligence.

G6362 R8.S1 1920 .R Vault

—Romania

64. Militärgeographische beschreibung von Rumänien. Nitz, E. 3 p.l., 299 p. and atlas of 18 fold. gs 23000309

This map contains geographical descriptions of Romania created by the German General Staff. Romania fought along side Russia against the Central Powers.

G6521.S1 1916 .R6

— Balkans

65. Proposed boundary between Greece and Albania and population composition of south central Yugoslavia and northern Albania. Great Britain. War Office. General Staff. Geographical Section. 3 maps : col. ; 37 x 61 cm. or smaller, on sheets 58 x 71 cm. or smaller. 88694277

Maps include a population study of Serbians and Albanians. They highlight the locations of alleged Serbian massacres of Albanians.

G6811.F2 s250 .G7 Vault

66. Approximative zones according to the secret Treaty of London (April 26th 1915): [Albania] / A. Radovitch. Radovitch, A. (André), 1872-. 1 map : ms., col. ; 46 x 38 cm. Black ink, col. inks, and col. washes on photocopy base map. 88694279

Map showing territory to be ceded to Italy and Serbia in exchange for their entrance into the war against the Central Powers. The Treaty of Versailles would nullify the agreement.

G6831.F2 1915 .R3 Vault

67. Topographic quadrangle maps of the Struma River Valley, Bulgaria and Greece] / 8th Field Survey Co. R.E. Great Britain. Army. Royal Engineers. Field Survey Co., 8th. maps: col., mounted on linen ; 40 x 50 cm. "Unclassified." 91684073

The Struma River, which flows through modern-day Macedonia and Bulgaria, was part of the Macedonian Front in the Balkans. The Allies had come to aid Serbia, in the autumn of 1915, which was being crushed by the combined weight of the assault of Germany, Austria-Hungary, and Bulgaria. The assistance, however, had arrived too late and Serbian troops were forced to evacuate. Three years later, the Serbians with Allied support liberated their country and knocked Bulgaria out of the war. These maps were likely used in the planning of the 1918 Allied offensive.

G6892.S8 s20 .G7

—Eastern Europe

68. Feldmässig hergestellte Fliegerkarte: [Osteuropa]. Prussia (Germany). Landesaufnahme. Kartogr. Abteilung. maps : col. ; 29 x 37 cm. or smaller. "Nur für den Dienstgebrauch." 93680340

      This aeronautical chart depicts eastern Poland, Lithuania, and Latvia. It is one of the few examples of such charts in the collection.

G6966.P6 s200 .P7

 —Russia

69. Archangel district, Russia. United States. Corps of Engineers. Allied Mapping Section. unk81002821

      A topographic survey that shows "base" locations of the American troops in Archangel. The force was part of an Allied intervention in Russia, where a civil war was being waged following a revolution in 1917 that led to the abdication of Czar Nicholas II in favor of a provisional government. The Allies hoped their efforts would keep Russia in the war, but Communists led by Lenin seized power from the provisional government and sued for peace with the Central Powers.

G7064.V56A1 1919 .J4

70. Gebiet der Armee-Abtlg. Woyrsch: [Ostpolen]. maps: col. ; 37 x 81 cm. 93686591

      This aeronautical chart shows military entrenchments and installations, which are printed in red and blue on a topographic base.

G7091.R2 s25 .G4 MLC

71. Karte der Ukraine. Germany. Armee. Generalstab. Kartographisches Institute. maps 46 x 62 cm. unk83041731

      These highly detailed maps of Ukraine were created by the German General Staff in 1918. They show roads, waterways, communication lines, and topography.

 G7100 s125 .G4

72. Map of Siberia, Maritime Province / American Expeditionary Forces. United States. Army. American Expeditionary Forces. Engineer Office. maps : ms., linen ; 44 x 48 cm. or smaller. "Based on Russian General Staff map." 99442532

These maps were used by the American forces to gain knowledge of the Siberian terrain during the period of American intervention in 1918-1920. Americans were garrisoned in Vladivostok from 1918 to 1920. Its mission was to support resistance to the Bolsheviks during the Russian Civil War, protect American supplies and railroad stock, and rescue the forty-thousand-or-so Czech forces detained along the Trans-Siberian Railroad. It saw limited action, and American casualties were minimal.

G7323.P7 s84 .U5 Vault

—Middle East

73. Turkish military features in the Levant. Great Britain. Army. Corps of Royal Engineers. col. maps 64 x 64 cm. unk83021508

Tactical maps of Ottoman trenches, barbed wire lines, gun emplacements, and machine gun posts. Key positions include: Gaza, Beersheba, Hairpin Redoubt, Atawine Redoubt, and Hareira Redoubt. The maps were used for planning operations during the Battle of Palestine in 1917.

G7421.P4 s20 .G7

74. Karte der asiatischen Türkei / auf Grund des gleichnamigen Blattes der Karte in 1:200000 der K. Osman Landesaufnahme bearbeitet von der Kartogr. Abteilung der Kgl. Preuss. Landesaufnahme. Prussia (Germany). Landesaufnahme. Kartogr. Abteilung. maps: col., mounted on linen ; 40 x 51 cm. "Nur für den Dienstgebrauch!" 92682779

Set of German foreign office maps of the Ottoman Empire. The Germans dispatched military and political advisors to help prepare its ally to fight the British and Russians. These topographic maps were made to assist German officers working in the field. They include place names, major cities, roads, other lines of communication, and pronunciation guides.

G7430 s200 .P7

 75. Dünya Savaşı'nda Osmanlı Devleti. 7 maps on 1 sheet: col., laminated; 18 x 18 cm. or smaller, sheet 98 x 68 cm. 2005626333

Seven maps that depict battles and territorial changes in Turkey. It includes text, chronology, and illustrations.

G7431.S65 2004 .G8

76. Mesopotamia. Survey of India. 14 maps : col. ; 58 x 100 cm., folded in cover 17 x 13 cm. "Official use only." 91684651

Set of maps of what is now Iraq created by the Survey of India, which was essentially composed of British military engineers. Maps were relevant to British troops stationed in India who fought German-led Ottoman forces for control of present-day Iraq.

G7610 s126 .S8

—Asia

77. Commercial map of China / compiled from the latest surveys and other authentic sources. Oriental Geographical Society, 1916. 1 map : col. ; 131 x 119 cm. + 1 index. "Japan Gazette Press, Yokohoma, Japan." 2007629182

This commercial map and index of China was "compiled from latest surveys and other authentic sources." It appeared in the Japan Gazette Press on January 1, 1916. The legend differentiates major and minor cities; also, it lists communications lines and railways. The index is replete with advertisements of Japanese industries in China.

G7821.G1 1916 .O7

78. Minami Manshū oyobi Kantōshū / chosha Andō Rikinosuke. Andō, Rikinosuke. 1 map: photocopy; 50 x 34 cm. 2007628212

Map shows territory on the Liadong Peninsula in Manchuria that was leased by the Kwangtung Army of the Imperial Japanese Army. Place names are in Japanese.

G7822.M2 1918 .A5

79. Kasei Kita Shina jūmanbun no ichi zu. Tsingtao / Sanbō Honbu, Rikuchi Sokuryōbu; Rinji Sokuryōbu. Japan. Rikuchi Sokuryōbu. maps; 36 x 48 cm. 92682617

This Japanese survey depicts the German colony of Tsingtao in China, which the Japanese and British later jointly seized during the war. This action deprived Germany of its only significant Asian port.

G7824.Q4A1 s100 .J3

—**Africa**

80. German East Africa. Great Britain. War Office. General Staff. Geographical Section.4 maps : col. ; 63 x 78 cm. or smaller. 2009578552

Set of large scale maps of Eastern Tanzania and the Kenya border that depict population centers, railroads, roads, and other features needed to execute military maneuvers. The maps were made by the Germans in 1912 and reprinted by the British War Office in 1915. Britain planned to seize the lightly defended German colonies by deploying troops stationed in India. Although the Germans were unable to hold onto the territory, its forces evaded capture and fought a guerilla campaign until the end of the war.

 G8440 s100 .G7

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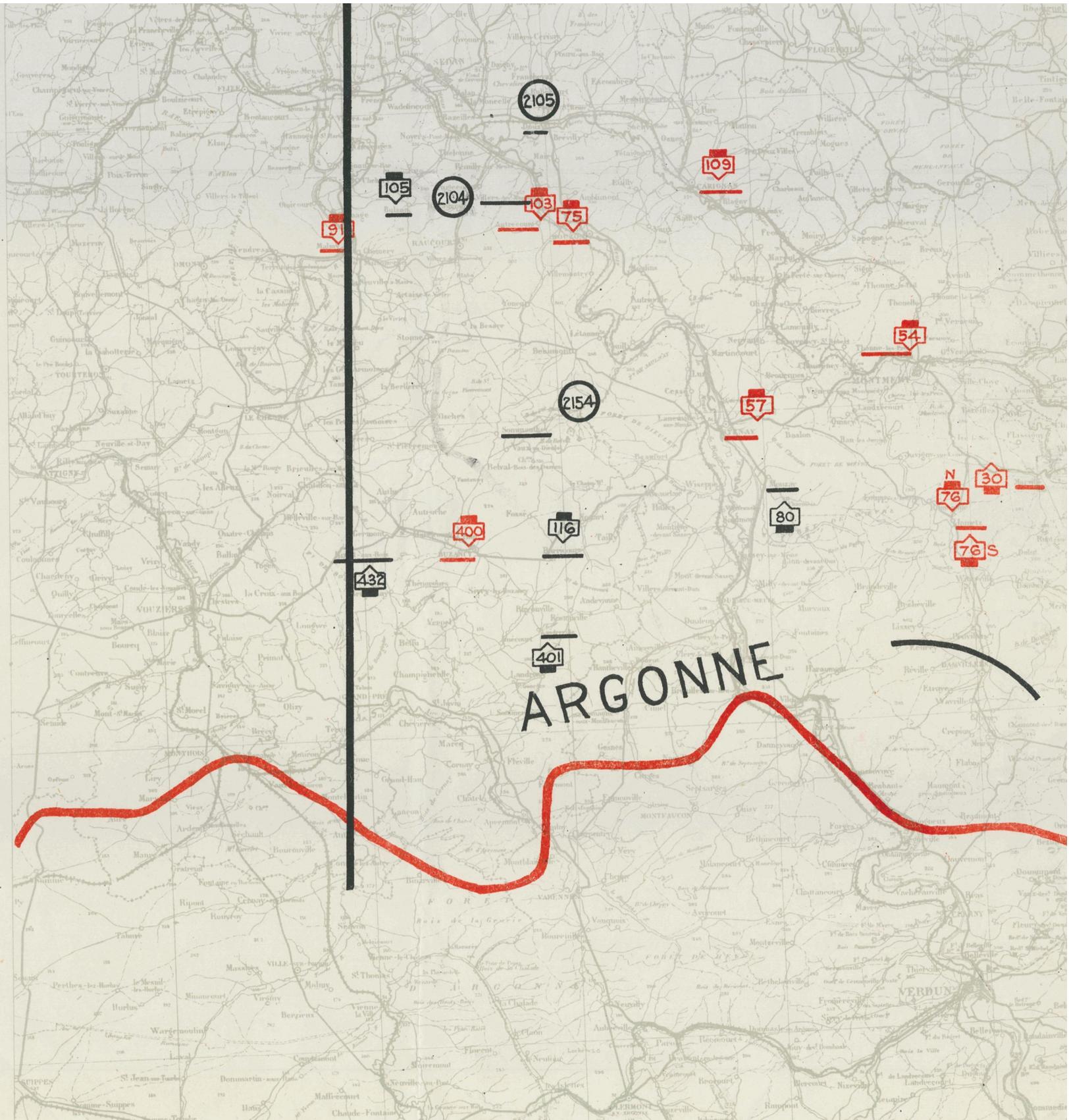
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MAPS

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ARGONNE

MAP of HOSTILE AIRDROMES
OCTOBER 5, 1918

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