Warfare 1914-1918 (Germany)

By Markus Pöhlmann

Summary

Germany entered the First World War as one of the era's mightiest military powers. In 1914, Germany's understanding of war was strongly influenced by four decades of peace and by its geostrategic situation. The army's and navy's expectations and operational preparations shared little common ground. This article provides an introduction to the structure, doctrine, operational development, and military performance of the two branches of the German armed forces.

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Introduction

When the First World War broke out, Germany fielded about 3,822,450 men – the second largest army in the world, outnumbered only by the Russian army. The navy mustered 161,500 men and had commissioned fifteen Dreadnought battleships, twenty-two pre-Dreadnought battleships, four battle cruisers, nine armoured cruisers, forty-one protected cruisers, 149 destroyers, and twenty-eight submarines. In its African colonies, Germany also had 5,600 men in the *Schutztruppe* and police forces and 7,800 indigenous forces.[1]

The German constitution led to a rather complex structure of the military high command. The nominal supreme commander in times of war was the German emperor, who had de facto delegated this task to the chief of the Prussian general staff (in wartime redesignated the *Oberste Heeresleitung*; OHL, Supreme Army Command).[2] In addition, important military responsibilities were held by the chief of the admiralty (naval operations), the Prussian minister of war (mobilization of human and material resources), and the heads of army and navy officer personnel (*Heereskabinett* and *Marinekabinett*).

Compared to other belligerents, Germany's standard of material armament was high. The *Gewehr 98* Mauser rifle was the standard issue for the infantry. In range, calibre, and ease of use it was equivalent to its French and British counterparts. The machine gun 08 had already been introduced in the infantry and the cavalry but – despite its employment in manoeuvres and on colonial expeditions – remained a novel weapon.

The field artillery was still catching up with the standard set by the French since 1897. The heavy artillery was strong, a result of the intense operational occupation with the fortresses in Belgium, France and Russian-Poland prior to 1914.

Military aviation was still in its infancy and was primarily regarded as a means for reconnaissance. Given Germany's geostrategic position, the design and management of the national railroad network was highly efficient. However, the Prussian-German army remained a "late adopter" in military motorization. The navy focused on establishing a blue-water navy with modern all-big-gun-battleships. The *Hochseeflotte* was technically up-to-date, but the German navy had fewer ships than the British navy.

The growing heterogeneity of the military's officer corps signalled the transition that the armed forces were undergoing at the beginning of the war. Since the 1890s the increase in the size of the military and the advent of new technology had broken open this old domain of the aristocracy. The military, especially the navy, became a highly respected occupation for candidates with a bourgeois background. This trend dramatically increased during the war.[3]

Germany's rank and file were some of the best educated and best trained troops in Europe. Despite all political rhetoric of a "nation in arms", conscription had not been fully implemented before 1914 for a mix of political, budgetary, and military reasons. Germany's military had a well-trained reserve force, which gave the army a tactical advantage, especially in the early phase of the war.[4] However, the fact that Germany had not been involved in a major war since 1871 meant it was at a disadvantage.

France remained the primary military opponent for the officer corps. The navy, in contrast, was focused on the future confrontation with its British opponent. Militarily, the general staff had low expectations for the help it could expect from its ally, Austria-Hungary, which meant that before 1914 no coherent joint planning process was initiated. The pre-war consultations between army and navy remained equally non-committal. There was, for example, no joint planning for stopping the British Expeditionary Force's (BEF) shipments to the continent. The navy believed itself to be fully occupied with greater assignments, and the army saw no urgent need in this matter (which says much about the German perception of the BEF as a fighting force in 1914). In the end, in August 1914 Germany did not wage one war but two –

one on land and one at sea.

Army

The army's pre-war image of war was based both on its perception of Germany's geostrategic position on the continent and on its observation of foreign armies. Insurgencies or wars on the peripheries of European empires had influenced Germany's military analysts' pre-war assessments only as long as major conventional contingents were involved or such conflicts provided technical or tactical lessons. The Russo-Japanese War in Manchuria (1904/05) constituted a particularly rich field for learning about modern warfare, whereas the wars in South Africa (1899-1902) and in the Balkans (1912/13) offered only limited practical application. Given the long period of peace, the military elites found themselves confronted with considerable difficulty in assessing the character of a future war.

Nevertheless, it would be erroneous to conclude that the army's leadership expected a war à la 1870/71. Germany's military leaders fully expected that a major war in Western- and Central Europe would be a serious challenge for the armed forces and for Germany's economic and social forces. It was also probable that such a war – like the Manchurian campaign – would lead to temporary phases of stalemate and positional warfare. The longer such a war dragged on, the more Germany's enemies would be able to muster their numerically superior military and stronger economies. This could only be prevented if the German army successfully used its tactical and operational superiority.[5] Therefore, the basic question was not so much what the character of a future war would be, but if the German army could predetermine the war's character through its own actions. The result of this belief was an elaborate operational scheme, the so-called *Schlieffenplan*. Its basic idea was that, in a two-front situation against France and Russia, it would be paramount to first beat the French army in a rapid manoeuver and then turn the army towards the Russians.[6]

In late August 1914, the defence against the advancing Russian army at Tannenberg was successful, which came as both a surprise and a relief to the German high command. However, during the Battle of the Marne, the German army's failure to encircle and destroy the French and British forces until 13 September resulted in a series of improvised follow-up battles that proved it was impossible to penetrate a front defended by mass armies equipped with machine guns and quick-firing artillery. This experience brought an end to the first phase of the war and initiated what German military planners had feared most – stalemate from October 1914 onwards.

All subsequent considerations had to adjust to these new realities. 1915 thus became a year of tactical improvisation in positional warfare in the West, with the German army fighting

defensively. In the East, in contrast, the Russian army was pushed back, starting with the Battle of Tarnów-Gorlice in May, in one of the few operations in which tactical innovation was first tested against Russian forces. While war on the Western Front had been characterized by trench warfare, troops on the Eastern Front faced enormous distances and insufficient infrastructure. The Russian army may have been inferior to the German in terms of leadership, quality of the rank, artillery, and technical troops, but it was able to utilize space and could rely on the quality of its troops when on the defensive. Consequently, the German army was unable to destroy major Russian forces in swift operations, leading to alternating phases of manoeuver warfare and stalemate. The more the German army moved into the Russian Empire, the more the disadvantages of the two-front-situation became apparent. With Austria-Hungary having been heavily battered during the first year of the war, the German army grew into the role of senior partner in the coalition. German units were increasingly used as stays (*Korsettstangen*) on the Austrian front, and the German high command increasingly dictated operational planning.

It was not until February 1916, at Verdun, that the German army was able to go on the offensive in the West again. This battle, as in the ensuing Allied offensives at the Somme and in western Ukraine, was marked by an effort to perfect positional warfare through tactical innovation and the accumulation of men and material. This strategy was primarily followed in the West, whereas the military conditions on the Russian and Balkan theatres of war allowed for phases of manoeuver warfare.

The great battles of attrition of 1916 severely depleted the German army. As a consequence, the OHL made an important strategic decision: it withdrew the army in France to a more defensive position for 1917 and planned to overwhelm Britain with unrestricted submarine warfare in the same year. This scheme was successful in so far as the German army surprised its opponents with the move into the *Siegfried*-line and thereby survived another year on the Western Front. However, the declaration of unrestricted submarine warfare triggered the United States' entry into the war, and the constriction of Britain's channels of commerce did not work out as planned. Consequently, the balance of soldiers, materials and gross national product increasingly turned against Germany in the following year.

Temporary relief came about as a result of the collapse of the Russian army in autumn 1917, though the Bolshevik government's refusal to sign a peace treaty soon led to a resumption of hostilities and a diversion of German forces deep into the Baltic and the Ukraine. Nevertheless, the army was able to move considerable parts of its forces from Russia to Belgium and France. For the high command, this offered the opportunity for a last big push before U.S. forces arrived on the European continent. Between 21 March and 18 July, the front in France was shattered by a series of German offensives that resulted in the German

line being pushed forward up to sixty kilometers. The attack brought the German armies to the gates of Amiens and Château-Thierry. Here the push stalled due to the eccentric outline of the operation, the reorganization of the defenders' forces, heavy losses, and the fact that the German units outran their own logistics.[7]

The Allies' superior resources were not alone enough to win the war, but the combination of the stalling of the German offensive in mid-July and the Allies' counter-offensive at the same time helped turn the tide. For the first time, the Allied armies were able to successfully merge their superior resources and matured tactical concepts. The only German response remained a continuous retreat that finally ended with the ceasefire in early November.

The last four months of the war brought a dramatic decline in the German army's fighting power and in soldiers' physical and moral resilience. This phenomenon can be explained by a combination of internal corrosion and external pressure,[8] worsened by the army's depletion during the spring offensive and the lack of trained replacements. Furthermore, the propaganda had sold the spring offensive as the final push, but victory had not materialized, leading the soldiers to become frustrated and doubtful. Frustration was furthered by the daily experience of the enemy's increasing superiority. The methodical bite-and-hold-doctrine of the Allied armies enabled the German soldiers to adjust to this increasingly hopeless situation: they fought less stubbornly, started to avoid contact with the enemy, focused their tactical abilities on the retreat, and even chose to surrender individually or in groups. Self-mutilation, straggling and desertion also became desperate strategies for survival. The army that came to a hold on 11 November looked exhausted, but still stood in France, Belgium, and Russia. However, it had long before lost its structural integrity as a fighting body.

The German army's cutting-edge tactics were primarily based on two military principles that proved of particular importance in the mass positional warfare of 1914-18: the German command-and-control-culture of *Auftragstaktik* (directive command), and the focus on combined arms tactics that was rooted in pre-1914 doctrine.

The development of tactics followed the imperatives of trench warfare. Having primarily fought defensively between 1915 and 1917, it is not surprising that wartime tactical reforms started with the defensive. The trench system increasingly developed from one single line into a fortified zone, while fire power increased enormously. In 1914, an infantry division had seventy-two pieces of field artillery and twenty-four heavy machine guns; in 1918, the same division had thirty-six pieces of field artillery, twelve heavy guns, eighteen light and six medium mortars, as well as 108 heavy and 180 light machine guns.[9] Men, weapons and equipment disappeared underground, creating the proverbial "emptiness of the battlefield".

Up until the beginning of the Battle of the Somme in July 1916, standard tactics advocated massing troops on the first line of defence. The losses caused by this procedure, however, initiated a change. After July 1916, the number of troops on the first line was reduced in order to create a main force and reserves further behind. In the case of an identified attack, these forces would initiate a counterattack against an enemy already weakened by the defender's machine gun fire and artillery barrage. This elastic defence replaced the static line of defence in 1917. With declining manpower, the defence system finally was reduced to a loosely connected grid of trenches, crater positions up to nine meters underground, and concrete blockhouses up to some 500 to 1,000 metres behind the thinly-held front line. Men could withdraw to these strongly reinforced defences if necessary.

Reconverting the army to "attack-mode" in preparation for the 1918 offensives was a particular challenge. The troops spent the winter of 1917/18 in a recuperation and training program. The adherence to operational surprise, the dissolution of attack formations, the employment of specially-trained spearhead units (*Sturmtruppen*), and the use of novel artillery tactics focused on predicted fire instead of preliminary bombardments were the basis for this attempted return to manoeuver warfare in the spring of 1918.

The innovation in German defensive and offensive tactics between 1916 and 1918 serves as a good example of the potential for transforming military doctrine during war through a discursive learning process that, by design, includes all levels of command. This process was not without friction or flaws, nor did it suffice to win the war; nevertheless, it created a tactical frame of mind whose effectiveness outlived the particular conditions of trench warfare in which it had been created.[10]

Effective procedures are, of course, a necessary precondition for military success, but without powerful and numerous weapons procedures remain obsolete. The most important fighting force in the First World War was the artillery. Chemical agents were added to the German arsenal in early 1915 and played a substantial role in trench warfare for the rest of the war. With major operations restricted to a permanent combat zone, command-and-control-technologies such as radio, telephone, mapping, aerial photography, and signal intelligence were of paramount importance. The air force, though not an independent arm of the military, developed from an instrument of reconnaissance into a full combat force, fighting the enemy's air force, supporting ground operations, and bombing installations and cities beyond the frontline.

Given the German army's lack of understanding of the importance of military motorization, it is not surprising that the German command only started to comprehend the tank's usefulness after seeing it roll towards the German army from British trenches in September 1916. This

lag, however, meant that the German side was unable to make up this technological gap.

The kinetic power and the symbolic radiance of military high-tech often makes one forget that fighting in 1914-1918 also had a very archaic dimension. When the infantry managed to cross the lethal zone of no man's land, they employed traditional weapons to fight and kill the enemy: rifles, pistols, hand grenades, bayonets, knives, knuckledusters and a wide range of self-made maces. The army's statistical survey on soldiers wounded in action reveals diverse causes for injuries in the war:

Artillery	54.7
Rifle	39.0
Shots of other origin	4.60
Hand grenade	1.30
Cold weapon/Arme blanche	0.28
Handgun	0.10
Unknown source	0.02

Table 1: Distribution of wounds according to source (in percent), 1914-1918.[11]

Trench warfare created a new reality of fighting. The trenches were both a combat zone and a habitat. Warfare turned into a specific variant of the industrial process, with a division of labour, management of time and resources, and an increasing specialization of the "workforce" of war. Combat was by no means the soldiers' main occupation. Only a small minority of German soldiers ever saw the whites of the enemy's eyes. In fact, the daily life at the front was dominated by a permanent seesaw of existential threats, latent insecurity, and boredom. Soldiers commuted regularly between the front, the *hinterland* and home for recuperation, training courses, leave, or a stay in a hospital. German soldiers, like their counterparts in other armies, fought out of a sense of patriotism, obedience and, (all male) group cohesion that allowed them to endure the ordeals of war.

Apart from combat the army was primarily concerned with retaining control over its own matters and increasing its control in spheres related to the war. Over the course of the war, the military obtained and usurped vital non-military functions for domestic security, the war economy, and propaganda. Nevertheless, the orthodox thesis of a "silent dictatorship" of the

high command from mid-1916 onwards underrates the forces in the administration, the federal states and – not to mention – the parliamentary groups of the *Reichstag* that opposed an expansion of the OHL's power.[12] Administration was also a major military task in the occupied territories in Belgium, France, Luxembourg, Russia and Romania, where the army had to secure, organize, and exploit huge territories in the interest of the German war effort.

Navy

The navy had long been the younger and smaller branch of the armed forces in Germany. Around the turn of the 20th century, the secretary of the navy had unleashed a political campaign to finance the expansion of a modern blue-water navy, the *Hochseeflotte*.[13] This project awoke the mistrust of Great Britain, the leading naval power. Up until 1914, all German considerations regarding naval procurement, operational planning for naval warfare, transcontinental communications, and colonial ambitions had been influenced by the naval competition with Great Britain. Unlike the army, the navy understood the High Seas Fleet as an instrument of strategic deterrence, effective through its existence rather than through its employment.

The navy's smaller forces of cruisers and submarines were regarded as weapons of secondary importance. It was the High Seas Fleet that would determine the war at sea by challenging Britain's superior Grand Fleet – provided the conditions were favourable, i.e. by attempting to detach a part of the British navy to defeat it separately. These conditions never occurred; in 1914 the Grand Fleet restricted itself to a distant blockade of the German seaway, and the High Seas Fleet's attempts to lure the enemy's main force into battle failed. In the Baltic Sea, the German fleet managed to hold its Russian adversary at bay for the duration of the conflict. The isolated German cruisers led merchant raiding campaigns in the Pacific and South Atlantic but were hunted by the Royal Navy until early 1915.

With the High Seas Fleet stymied in the North Sea, the admiralty initiated a change of strategy in February 1915. The submarines were supposed to break the blockade and attack Britain's oversea commerce within a defined zone of war. Though the campaign brought some success in military terms, it had to be abandoned in September after the neutral United States protested over the deaths of U.S. citizen in attacks on British ships.

The only confrontation between the two big fleets took place on 31 May/1 June 1916 in the Battle of Jutland (*Schlacht im Skagerrak*). The High Seas Fleet's tactical success can be seen in the fact that, as the weaker force, it had attacked the Grand Fleet and then managed to escape without being destroyed. However, the bigger, operational dilemma did not change

for the German navy after this battle.[14] Again, the frustration over this situation initiated a resumption of submarine warfare – this time without adherence to the legal restrictions, prize rules, or a self-imposed war zone as in 1915. Furthermore, the decision for unrestricted submarine warfare against Britain was coordinated with the strategy for the Western Front in 1917. The likely reaction of the United States was regarded as a calculated risk. The strategy change of 1 February 1917 was therefore arguably Germany's most strategic decision during the war – and turned out to be the most detrimental. On 6 April the USA entered the war against Germany, and when submarine warfare, despite high numbers of gross registered tons destroyed every month, did not turn out the desired political result, the admiralty was out of options.

When the chancellor offered a cease-fire on 29 October 1918, the admiralty planned to assemble the fleet and direct it against the enemy for a last battle. This controversial decision was motivated less by operational considerations than by the admiralty's wish to protect the navy's prestige and to make amends for the perceived shame of its inactivity. Realizing the suicidal character of this mission, the sailors refused the order. This order initiated a revolution that quickly spread across Germany in early November 1918.

As on land, war at sea did not mean combat alone. In fact, the majority of sailors saw even less fighting than soldiers. The daily business in the High Seas Fleet consisted of patrols, mine laying, and maintenance jobs on the ships. The sailors' morale began to suffer from the inactivity and the poor living conditions. Their commanders reacted with military drill and hard labour. More so than in the army, the naval officer corps insisted on social segregation, therefore adding to the tensions in the fleet.

Military life on the cruisers, in contrast, had all the features of traditional seafaring nostalgia: demanding high sea navigation, exotic countries, perilous merchant raiding, and internment or lethal combat against superior forces. The persistent glorification of this dimension of the war at sea stands in stark contrast to the military significance that the naval command attributed to it.

With the submarine, a new dimension of the war at sea came into existence, raising new legal and moral issues. On the U-boat, a highly specialized crew fought and lived under extremely constricted conditions. Their commanders quickly became heroic archetypes of modern machine war. No assignment in the navy was more deadly than the service on a submarine. Among its 374 U-boats, the German navy lost 178 during the war.[15]

The navy additionally contributed to land warfare with its marine contingents. The defence of the Chinese colony of Qingdao in 1914 was mainly conducted by marines and sailors.

Moreover, the German side of the Western Front along the Flanders' coast line was defended by the *Marinekorps* for the duration of the war.

Conclusion

The military dimension of the German involvement in the First World War can best be illustrated in numbers: between 1914 and 1918, 13.67 million men served in the armed forces. 2,036,897 men were killed or later died of wounds. 2,000,876 of those who died were from the army, 34,836 from the navy, and 1185 from colonial forces. About 100,000 of these men went missing in action. Additionally, 4,500 enlisted African soldiers (*Askari*) and an unknown number of indigenous combatants and porters have to be added to the military losses. The official statistical survey counts 4,215,662 cases of injuries.[16] The number of mental injuries and their long-term consequences can only be speculated. Lastly, nearly 1 million soldiers became prisoners of war.

These statistics, however, are incomplete without including the roughly 670,000 German civilians who died of malnutrition and disease as a consequence of the blockade and the German government's ineffectiveness.[17] In 1918, the war had finally exhausted the military, economic and societal resources of Imperial Germany.

The military lessons of 1914-18 influenced the thinking and practice of Germany's armed forces up until 1945. The two basic principles of pre-1914 doctrine – directive command and combined-arms-tactics – had passed the test of war. After 1918, technological innovation offered the possibility of real mobility, both on the ground and in the air. The other great lesson, that war was no longer a matter of the armed forces alone but of society as a whole, became common knowledge after the experience of 1914-18. It was more difficult to draw military and political conclusions from this general insight.

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Notes

1. Numbers for personnel according to Kriegsrüstung und Kriegswirtschaft. Vol. 1: Die militärische, wirtschaftliche und finanzielle Rüstung Deutschlands von der Reichsgründung bis zum Ausbruch des Weltkrieges. Reichsarchiv (ed.), Berlin 1930, pp. 211-222, here p. 217. For the list of ships see: Salewski, Michael: Seekrieg, in: Hirschfeld, Gerhard/Krumeich, Gerd/Renz, Irina in cooperation with Pöhlmann, Markus (eds.): Enzyklopädie Erster Weltkrieg, Paderborn 2003, p. 829. ↑
2. Helmuth von Moltke (1848-1916): August to September 1914; Erich von Falkenhayn

(1861-1922): September 1914 to August 1916); Paul von Hindenburg (1847-1934) with Erich Ludendorff (1865-1937) as 'Quartermaster-General': August 1916 to October 1918. Wilhelm Groener (1867-1939) replaced Ludendorff on 26 October 1918. ↑

3. Cf. Demeter, Karl: Das deutsche Offizierkorps in Gesellschaft und Staat 1650-1945, Frankfurt am Main 1965. ↑
4. Stein, Oliver: Die deutsche Heeresrüstungspolitik 1890-1914. Das Militär und der Primat der Politik, Paderborn 2007, pp. 121-134. ↑
5. A convincing introduction is offered by Gerhard P. Groß in: Groß, Gerhard P: Mythos und Wirklichkeit. Geschichte des operativen Denkens im deutschen Heer von Moltke bis Heusinger, Paderborn 2012, pp. 61-104. ↑
6. For the debate on the German war plan cf. Ehlert, Hans/Epkenhans, Michael/Groß, Gerhard P. (eds.): Der Schlieffenplan. Analysen und Dokumente, Paderborn 2006 (English translation: Ehlert, Hans/Epkenhans, Michael/Groß, Gerhard P. (eds.): The Schlieffen Plan: International Perspectives on the German Strategy for World War I, Lexington 2014. ↑
7. David Stevenson has emphasised the openness of the historical situation. Nonetheless, given the strategic resources and the Allies' political determination, a German success in the West would not have brought victory, but only the prolongation of war into 1919 at most. Cf. Stevenson, David: With Our Backs to the Wall. Victory and Defeat in 1918, London 2011. ↑
8. For a discussion of the soldiers' motivation to fight – and to escape from fighting, see: Watson, Alexander: Enduring the Great War. Combat, Morale and Collapse in the German and British Armies, 1914-1918, Cambridge 2008. ↑
9. Stachelbeck, Christian: Deutschlands Heer und Marine im Ersten Weltkrieg, Munich 2013, p. 120. ↑
10. Cf. Lupfer, Timothy T.: The Dynamics of Doctrine. The Changes in German Tactical Doctrine during the First World War, Leavenworth 1981. ↑
11. Cf. Heeres-Sanitätsinspektion des Reichswehrministeriums (ed.): Sanitätsbericht über das Deutsche Heer im Weltkriege 1914/1918. 3 volumes. Vol. 3, Berlin 1934, p. 72. The statistical report is incomplete; it does not list the uncollected last four months of the war. ↑
12. The original quotation stems from: Kitchen, Martin: The Silent Dictatorship. The Politics of the German High Command under Hindenburg und Ludendorff, 1916-1918, London 1976. ↑
13. Cf. Hobson, Rolf: Imperialism at Sea. Naval Strategic Thought, the Ideology of Sea Power and the Tirpitz Plan 1875-1914, Boston 2002 (German translation 2003). ↑
14. Cf. Epkenhans, Michael/Hillmann, Jörg/Nägler, Frank (eds.): Skagerrakschlacht. Vorgeschichte – Ereignis – Verarbeitung, Munich 2011. ↑

15. Schröder, Joachim: Die U-Boote des Kaisers. Die Geschichte des deutschen U-Boot-Krieges gegen Großbritannien im Ersten Weltkrieg, Lauf an der Pegnitz 2001, pp. 422, 427, 437. ↑
16. Cf. Heeres-Sanitätsinspektion: Sanitätsbericht. Vol. 3, Berlin 1934, pp. 12, 72. ↑
17. For a concise discussion on the blockade and for a discussion on the estimated numbers of victims cf. Kramer, Alan: Blockade and Economic Warfare, in: Winter, Jay (ed.): The Cambridge History of the First World. Vol. 2. The State, Cambridge 2014, pp. 460-489, here p. 461. The author argues that the blockade was an Allied rather than a British means of warfare (p. 462). Formally, this might be correct. Nevertheless, the Royal Navy's role in the planning, providing equipment and upholding the blockade was central, particularly with regard to the important North Sea entries. ↑

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Deutschland ; Weltkrieg [1914-1918] ; Kriegführung

LC Subject Headings
World War, 1914-1918--Campaigns--Germany

Rameau Subject Headings
Guerre mondiale (1914-1918) -- Campagnes et batailles ; Allemagne

Key Person(s)

Key Location(s)
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Author(s)
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Articles That Link Here

Germany; Germany; Museums; Pre-war Military Planning (Germany); Minorities in Germany (Denmark); Germany; Wartime Emotions: Honour, Shame, and the Ecstasy of Sacrifice; Warfare 1914-1918; Warfare 1914-1918; Literature (Germany); Science and Technology (Germany); General Headquarters (Germany); Ludendorff, Erich; Prussian War Ministry; Falkenhausen, Ludwig Alexander Friedrich August Philipp Freiherr von and Imagined War