



David Stone

THE
KAISER'S
ARMY

The German Army in World War One

B L O O M S B U R Y



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WORLD WAR ONE

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PREFACE

THE KAISER'S ARMY 1914–1918 seeks to provide an authoritative and comprehensive guide and reference to virtually every aspect of the German imperial army that fought in World War I. As well as providing a wide-ranging description of the development of the Kaiser's army, this work is structured to serve as an authoritative companion to many of the existing historical works, personal memoirs and more specifically focused battlefield accounts of imperial Germany's fighting forces during World War I. Arguably, it also complements and serves as an essential prequel to my earlier work *Hitler's Army 1939–1945* (Conway, 2009). As such, *The Kaiser's Army* describes the German army of the pre-war period and then deals with its development during the war years, covering matters such as its preparations for war, organization, command and control, manpower, combat arms, supporting services, tactics, training and operational procedures. Also described are the uniforms the troops wore, the weapons with which they fought and the equipment issued to them to carry out their role. An overview of the Kaiser's army at war is necessarily included in [Part II](#) in order to set the main part of this work in context, although a detailed account of each campaign and battle in which the army was engaged between 1914 and 1918 is beyond the intended scope of this work. None the less, the influence of wider international and domestic events upon the development of the army, not only during the war but also during the several decades leading up to 1914, was significant, and these are addressed where appropriate. The impact of these influences and events – political and military, strategic and operational, international and domestic – is very evident throughout the historical overviews in [Parts I](#) and [II](#), dealing as they do first of all with the army during the period of relative peace for imperial Germany that followed the Franco-Prussian War and then with the four years of all-out warfare that began in August 1914. I have also taken the opportunity in [Part II](#) to try to balance the inevitable coverage of the fighting on the Western Front by highlighting some of the army's less familiar campaigns, including those in German East Africa, the Middle East, and on the Eastern and Italian Fronts.

The Kaiser's Army relies on a number of contemporary German military sources and texts that originated between 1900 and 1918, as well as in the 1930s, and this is reflected in the use of the 1914–18 German military titles and terms for various types of units, personnel, weapons, equipment and so on where appropriate. Generally such terms are invariably shown with their English-language equivalent on first use (but with this explanation also sometimes repeated later where necessary), and every

German word and phrase used in the main text can also be found in the Glossary. Where variations in some German words describing the same item or subject were identified between sources (often where two or three publications were produced several years apart), a single, correct version has been selected and adopted throughout the book and in the Glossary. Where appropriate, the use of the German ‘ess-tset’ (ß) character instead of the letters ‘ss’ mirrors the correct grammatical use of that written character in the 1914–18 period.

With regard to the endnotes, some of these are quite extensive, as I have not only used them to indicate sources but have once again adopted the practice used in several of my previous books to amplify or explain in more detail various matters dealt with in the main text but where the inclusion of such detail within that text might distract attention from the principal theme. Accordingly, readers will find a diverse range of additional facts, figures, anecdotal material, biographical notes and explanatory and other information amongst the endnotes, several of which represent ‘stand alone’ summaries of the subject in hand.

Concerning the material and sources used in *The Kaiser’s Army*, all of the illustrations are from my own collection, with most of the photographs and colour images (including German army World War I field postcards and contemporary photographs) published originally between 1900 and 1920. The individual illustrations in the monochrome photograph section were prepared for publication by Keith Luxton of Twyford Copy and Print, Tiverton. The field-grey uniforms illustrated in colour in the uniforms and insignia plate section were originally published in *Die Graue Felduniform der Deutschen Armee* by Verlag von Moritz Ruhl of Leipzig in 1910, at which time the German army adopted the first version of the field-grey service uniform that it wore during the war years 1914–18. Where short quotations have been used, these are fully credited in the endnotes and the bibliography. Most such quotations are from German and British military publications from the 1914–18 period or other sources from the early decades of the last century; however, a few edited texts are drawn from more recently published compilations of contemporary accounts of World War I, and these are credited accordingly, with additional amplifying remarks as appropriate. I have also taken the liberty of assuming continuing permissions for my albeit minimal or part re-use of some quotations used originally in two of my earlier books ‘*First Reich*’ (2002) and *Fighting for the Fatherland* (2006). As ever, the flea markets and secondhand or antique book shops of Berlin, Munich, Dresden and a number of other German towns and cities, as well as in the Austrian capital Vienna, have over very many years provided an unfailing source of reference material, original documents and contemporary monochrome and colour illustrations of every type. The illustrations in this work reflect this, just as the main text reflects the excellence of the displays and archives of a number of German military, national and local museums, both great and small.

Pertaining directly to the sources used for *The Kaiser’s Army*, a special contribution to the project was that made by Gavin McClennan, a friend much-travelled in Europe during and since the Cold War, but with particular first-hand experience of the former DDR (East Germany). In addition to providing specific information connected with my research in Dresden during 2012, while in an old bookshop in Zittau (Saxony) he found an original copy of *Dienstunterricht des Königlich Sächsischen Infanteristen*

(literally, *Duties of the Royal Saxon Infantryman*) published in 1915, and was kind enough to send it to me. As a result, much of the detailed low-level information contained in this officially-approved handbook has been incorporated in *The Kaiser's Army* or used to verify, validate or clarify the less clear or conflicting material found in some other sources. In similar vein, I was most grateful to Jeremy Whitehorn of Heartland Old Books in Devon for providing me with a 1914 English-language edition of Count von Baudissin's controversial and revealing book *Life in a German Crack Regiment*, originally published in 1904 under von Baudissin's pen name of 'Baron von Schlicht'.

Once again, I am indebted to David Green in the United Kingdom, Terry Hughes in Australia, and my wife Prue for carrying out the preliminary editing of the draft manuscript. I am aware that the organizational complexities and ambiguities of the Kaiser's army, together with my wide use of contemporary German terminology, made this task particularly challenging. Their critical comments, corrections, and suggestions for improvements were truly invaluable and have added very significantly to the accuracy, readability and overall quality of the finished work. An especially helpful outcome of their separate analyses and suggestions was the amplification of some parts of the text to ensure the book's overall accessibility not only to specialist readers or students of the subject but also to the more general reader. I was also most appreciative of the access and research support afforded to me by the excellent Militärhistorisches Museum der Bundeswehr at Dresden. In earlier times this was provided by Oberstleutnant Ferdinand von Richthofen, but in 2012 and 2013 I was most grateful for the support of Dr. Oberst Matthias Rogg, Dr. Gorch Pieken and Dr. Gerhard Bauer. I also wish to acknowledge the support of the Wien Museum and the Heeresgeschichtliches Museum in Vienna during 2013. The Heeresgeschichtliches Museum provided a wealth of information on the part played by Austria-Hungary as Germany's principal European ally during the war, as well as a particularly valuable insight into aspects of the Home Front 1914–18; this included the changed responsibilities, new challenges and often uncertain futures of those women whose menfolk had answered the national call to arms.

I am yet again particularly grateful to my friend and professional colleague from earlier times Jorg-Peter Hellerling, a former lieutenant colonel of the German Bundeswehr. His diligent work to resolve specific research queries and to identify and correct my inevitable errors of translation or misapplication of German language or terminology as the project developed was absolutely indispensable. Peter's work in Germany on my behalf included rationalizing a multiplicity of terms and descriptive titles drawn separately from a wide range of 1900–18 German and English military publications, these terms and titles often varying considerably between such contemporary sources. The resulting glossary is a comprehensive and informative reference document that confers a particular authority and credibility upon the work.

My thanks are due to David Gibbons for applying his considerable experience as a professional editor to this book. It is the sixth such work by me that he has processed and once again this book has benefited enormously from his unfailingly constructive professional editing, together with his always appropriate tweaking of the final draft where necessary. In addition to carrying out the final editing of the main text, David developed and produced the maps, as well as laying out the photographic section,

colour images and artwork, line drawings and diagrams that support the text.

My special thanks are due to John Lee at Anova Books for matching (over several years) his personal faith in the future of this project to my own enthusiasm for the venture. I have been fortunate to enjoy such strong support for *The Kaiser's Army* from all who have contributed to its development, and it therefore remains only for me to acknowledge that any remaining factual or other errors that might possibly be identified in this work are mine alone. If a reader should identify any matter in need of updating or correction, the relevant details should be sent to the publisher in the first instance, in order that they may be taken properly into account during the development of future editions of *The Kaiser's Army 1914–1918*.

At this point these acknowledgements and introductory remarks would normally have ended. However, in mid-2014 a change in the ownership of Conway's parent company, Anova Books (which was subsequently renamed Pavilion Books), was followed shortly thereafter by the sale of Conway to Bloomsbury Publishing Plc. In the course of these events, publication of *The Kaiser's Army* was postponed from its anticipated publication in late July 2014 to the spring of 2015. Consequently, ever since Bloomsbury inherited *The Kaiser's Army* in October 2014, I have been most grateful to Janet Murphy, Jenny Clark and all of the staff at Bloomsbury for their wholehearted support for this project and for finally taking it forward to publication so expeditiously and with considerable enthusiasm.

David Stone
May 2015



INTRODUCTION

‘We had seen the generations before us grow old in security, and it seemed a wonderful dream to be permitted to fight as soldiers for our country’s greatness, ready to give all we had. We felt ourselves grow to meet the responsibility that suddenly rested all its weight on our shoulders, and the past woke in us to make each a part of one terrific force. The word Fatherland like an old magic formula transformed us from the bottom, and loosing all ties of party and sect made us of one heart and mind. All of military age, to a man, thronged to the colours, eager to show by deeds that they were ready for the task their times laid upon them and that their country might rely upon them.’

Leutnant Ernst Jünger,
on Germany’s declaration of war,
August 1914

Ever since Prussia and later a unified Germany emerged as one of continental Europe’s foremost military powers, historians and professional soldiers have studied that nation’s military evolution, seeking to identify the secret of its often spectacular successes. Understandably they have also pondered the reasons for Germany’s eventual defeats in 1918 and 1945 despite the formidable war machines with which the country entered these global conflicts. It is a matter of record that the professional qualities of the individual German officer and soldier – their ethos, discipline and training, together with the army’s organization, its general staff system, the weapons and equipment and the tactics it employed – together produced a legend of German military excellence and superiority that reached its highest point during the final years of the nineteenth century and then endured well into the twentieth century.

Germany suffered a crushing defeat in 1918, one that was much-exacerbated by the Treaty of Versailles in 1919. But, against all the odds, the army generally managed to retain its aura of professional excellence and practical competence through even to the final stages of World War II. That aura enabled the creation of the Weimar Republic’s Reichswehr in 1919 and the Wehrmacht of the Third Reich in 1935 – and the firm foundation upon which these more recent German military forces were built was the old German imperial army, the Kaiser’s army that existed from 1871 to 1918. Although the army that went to war in 1914 was primarily the product of almost seven decades of military development since the Austro-Prussian and Franco-Prussian wars fought by Wilhelm I, von Bismarck, and von Moltke in the mid-nineteenth century, it also reflected to a considerable extent the even older Prussian military traditions of the preceding two centuries.

But from 1914 many of the army’s long-standing military certainties and well-established operational assumptions were swept away as it became embroiled in a

global war. The changes experienced by the Kaiser's army between 1914 and 1918 were seismic. They affected matters as diverse and wide-ranging as operational concepts and tactics, uniforms and equipment, the relationship between officers and soldiers, the seminal impact of new weapons and technology, and the growing importance of public opinion and modern democratic government in Germany, a country in which the old imperial order was already exhibiting a considerable degree of hubris by the beginning of the twentieth century. Simultaneously, wider issues of patriotism, legality, humanity, the rules of war and aspects of the social order within the army were challenged, tested – sometimes found wanting – and in many cases changed for ever. But perhaps the greatest challenge for the high command after 1914 was the emerging need for the army to engage in a new form of warfare which, in more modern times, would be characterized as 'total war', with all that this implied and involved in practice.

As the conflict developed, the army had constantly to adapt. A short war of manoeuvre waged on only one front at any given time had been planned by the general staff and confidently anticipated by the German political and military leadership, but by the end of six months the fighting had evolved into a protracted and largely positional war of attrition fought simultaneously on several fronts. As well as conducting the ground war on the main Western, Eastern, Middle Eastern and Asian Fronts, German troops were engaged in a series of largely 'unseen' and sparsely reported campaigns in the nation's overseas territories and colonies for varying periods, and in German East Africa up to and beyond the Armistice in 1918. On the army's many battlefronts, machine-guns and barbed wire rapidly gained prominence over the more traditional rifle and bayonet, while in 1915 a new weapon of war was revealed when the first clouds of poison gas rolled across the already devastated landscape at Ypres on the Western Front. Powerful new artillery dominated daily activities on the well-established fronts, supporting an ever-more destructive and inhuman war of attrition. In the skies above, increasing numbers of reconnaissance and combat aircraft vied for aerial supremacy, raining bombs, bullets and observed artillery fire on to the ground below. Major advances in telegraphy, wireless and other means of communication assisted the business of command and control while also increasing the overall complexity of controlling operations. At the same time, the spread of motorization and the use of modern railway systems enhanced mobility and affected operational and strategic planning. However, on the Western Front the general staff's much-vaunted doctrine of manoeuvre warfare and the primacy of offensive operations soon lost their relevance and pre-war status amidst a sea of mud that virtually nullified the army's mobility, while at the same time its soldiers were experiencing the unprecedentedly destructive effects of modern defensive fire-power. The high command's reluctant but pragmatic acknowledgement of the new dominance of the defence followed, together with its adoption (albeit as a temporary strategic expedient) of positional warfare in the west. From 1914 this operational policy decision resulted in the requirement for many hundreds of thousands of German troops to defend the vast, complex line of trenches that eventually ran from the North Sea coast to the Swiss border.

During four years of war, the imperial German army enjoyed varying fortunes, although its professionalism, resilience and the sound motivation and morale of its

officers and men generally remained constant. This was still very evident as late as March 1918 when Ludendorff launched the army's last great *Kaiserschlacht* offensive on the Western Front. However, time was running out for the Fatherland by that stage, as the strategic balance had already swung irreversibly against it. The burgeoning numbers of troops arriving in Europe from the United States had already produced 25 new US divisions to reinforce the Anglo-French forces, and during the last six months of the war a further 1.5 million American soldiers arrived in France. By November 1918, the total of 2 million US soldiers deployed on the Western Front broadly equalled the numbers of troops fielded by the British (1.8 million) and French (1.7 million) armies in that area of the conflict. In Germany the situation on the home front was deteriorating day-by-day as the stranglehold imposed by the Allied naval blockade continued to curtail severely the country's ability to acquire the essential raw materials, food and other resources it needed to continue the war.¹ In such dire strategic circumstances, a German victory had become all but unattainable by the beginning of 1918, despite which a misplaced but widely held perception persisted within the field army (Feldheer) that it could still fight on and eventually win the war. In any event, by mid-1918 the war had been lost and the final fate of the Kaiser and the German imperial army was sealed, a reality forcibly underlined by the terms of the treaty signed at Versailles in 1919.

PART I



THE KAISER'S ARMY IN PEACETIME 1871–1914

1. HOME IS THE HERO: BERLIN, 17 MARCH 1871

On the cold, wintry morning of 17 March 1871, King Wilhelm I of Prussia and several regiments of his army returned from the recent battlefields of France to a rapturously enthusiastic reception in the Prussian capital, Berlin. By March 1871 Berlin's status had changed immeasurably since the start of the war against France the previous summer. No longer was it merely the principal city of Brandenburg-Prussia; it was now the capital of the new German Second Empire, which had been proclaimed to the world in the Hall of Mirrors at Versailles on 18 January. Accordingly, the victorious Prussian ruler and commander-in-chief who now rode along the Unter den Linden at the head of his troops was universally acclaimed and fêted as Kaiser Wilhelm I, the leader of a potentially mighty Germanic empire who had successfully united and then led the disparate German states to an historic victory against France. For the German citizens thronging the streets of Berlin that day in March, the flurries of snow and the bitter wind blowing into the city from the east were of little consequence, for they were witnessing what all believed to be the beginning of a new golden age of international influence, imperial development, national power, prestige and prosperity – and a period of peace and security for the Fatherland and the empire that would henceforth be guaranteed by an army whose proven combat success, organizational efficiency and consummate professionalism made it the best such force in continental Europe.

During the previous autumn and winter, the demands of the general staff for ever more manpower and resources had been set against a steadily mounting toll of German casualties, a situation highlighted in the public consciousness by the regular sight of contingents of wounded and disabled soldiers returning home from France. As the weeks passed, this had precipitated a growing sense of war-weariness and uneasiness in some parts of the German civilian population. Such doubts and uncertainties were speedily dispelled by the triumphant return of the Fatherland's victorious soldiers that March. Undeniably, the German success against France had been stunning and had generally been achieved in the best traditions of the Prussian military ethos and code of conduct – notwithstanding the severe punitive action taken against French irregular forces (the *francs-tireurs*) during the winter campaign. The creation of the new empire was a landmark in history, but it also placed Germany at a national and strategic crossroads. This was particularly so for the redoubtable war machine that had enabled

the creation of this new empire.

During the years that followed the defeat and humiliation of France, the imperial German army would gradually become a victim of its own success as it sought to consolidate what was already its virtually unassailable position within Germany and to enhance its formidable capability in order to support Germany's growing imperial ambitions. For the army and the German nation alike, the post-war period would prove to be an unsettling and somewhat unsatisfactory period of history, a period of contrasts during which the glittering military successes of 1870–1, if not actually squandered, were certainly not built upon as effectively as they perhaps deserved. Indeed, it might be argued that the victory against France in 1871 was truly the zenith of the German army's achievements in history, for none of its later conflicts were underwritten by such a worthy national aspiration as the unification of Germany.² But all that was very much for the future – in 1871 it was time for the high command to take stock of more recent events and to draw from them the lessons of the war and indicators of the way ahead for what was now the imperial German army.

2. A TIME FOR REFLECTION

The period from the end of the Franco-Prussian War until the outbreak of World War I in 1914 was characterized by four major factors affecting the army. First, there was the continued consolidation and enhancement of its already significant power, status and influence – especially that of the officer corps – both within Germany and beyond. Next, there was Germany's new status as an imperial power. This would inevitably generate colonial and global aspirations and for the first time would bring the army into direct competition with the navy for funding and resources. Thirdly, while the almost fifty years before 1914 were largely peaceful for Germany, it was during this period that the spectre of France and Russia as the new empire's potential enemies was raised. The perceived significance of these two threats was such that very detailed plans for countering them occupied the German government and the army general staff directly. Consequently, the need for a future war against one or both of these countries soon achieved an unassailable level of acceptance in the German military consciousness, while making such a conflict virtually inevitable.

The fourth consideration involved personalities and the human element. As had been the case for the previous two and a half centuries, the Prussian heritage of the empire's leadership affected the nature and development of the army significantly during the five decades prior to the great conflict that finally broke out in 1914. Three German Kaisers (emperors), all of whom were members of the Prussian house of Hohenzollern, ruled to direct and influence the course of imperial German history between 1871 and 1918. In 1888 the well educated, liberally inclined, cultured and militarily astute Friedrich III died of throat cancer after just 99 days on the throne. This particularly cruel turn of fate denied Germany an opportunity to reconcile and moderate the great international and internal influences, ambitions and frictions that gradually transformed the victory and triumph of 1871 into an imperial hubris during the years after Friedrich's death, when the 30-year reign of Wilhelm II, Friedrich's eldest son, proved to be excessively imperialistic and militaristic. Consequently, although the regime undoubtedly favoured and supported the army, it also encouraged and reinforced its self-aggrandizement, which progressively de-coupled the high

command from governmental control and diluted or removed various essential checks and balances that had been imposed upon it in former times.

In the years that followed the victory of 1871 the German army was reorganized and re-equipped to take full account of its recent experiences in France. Its organization reflected the proven advantages of the regional basing of units, formations and headquarters, as well as the maintenance of a strong regimental system and minimizing organizational change where it was not essential. The post-1871 organization also brought the forces of all of the German states, including the major contingents provided by Bavaria, Saxony and Württemberg, into the formal order of battle of the imperial German army, although various aspects of their organization and peacetime command arrangements maintained the heritage and distinct identities of the military forces provided by these more minor German states. As a result, from 1871 all of these forces joined those of Prussia – always the largest contingent – within a single unified army funded by the states of the North German Confederation, to which all the formerly independent German states now belonged. Despite this, and the fact that the army was controlled centrally from the old Prussian capital, the actual extent of the military dependence of the various German states on Prussia varied and still depended very much on the bilateral agreements and conventions that had previously been concluded with Berlin. From its formal establishment in 1871 this formidable military force was entirely at the disposal of its commander-in-chief, the Kaiser, and as such he was entitled to inspect any part of it virtually at will. However, there were two exceptions to this. The first of these was a diplomatic provision that before the Kaiser visited non-Prussian units he was obliged to inform the relevant head of state of his intentions. The second exception modified the absolute duty of every German soldier to obey the Kaiser as his commander-in-chief by an agreement that Bavarian troops would only be bound by this particular provision in time of war.

3. ORGANIZATION AND INNOVATION

Although the development of strategy, operational doctrine and major policy decisions continued to be controlled centrally, being the everyday work of the senior officers of the high command and the members of the all-powerful general staff, the army's command and training system in peacetime afforded a large measure of decentralization and autonomy to the various army corps in Germany. Corps commanders enjoyed a great deal of independence, working within a broad remit that included responsibility for their formation's overall efficiency and preparedness for war, its training and recruiting. Corps areas equated to military districts in peacetime and the locations and command arrangements of the various units within each district generally reflected their initial wartime subordination, as well as facilitating the speedy passage of call-up notices and instructions for the district's reservists in time of war or crisis. In 1898 there were twenty army corps, of which fifteen (including the Guard Corps) were composed almost entirely of Prussian troops, being administered by the Prussian War Ministry. The remaining five corps were the I and II (Royal Bavarian) Corps, the XII Corps (Royal Saxon No. 1), the XIII (Royal Württemberg) Corps and the XIX Corps (Royal Saxon No. 2).

By the mid-1890s the peacetime establishment of the army was about 23,000 officers and 557,440 non-commissioned officers (NCOs) and men. Including all non-

combatants, the peacetime army included 585,490 soldiers and 97,850 horses. On mobilization the army divided into the field army (Feldheer), with four or five army corps combining to form separate deployable armies, and the home army (Heimatheer). The Heimatheer remained in garrisons in Germany to defend the homeland and maintain law and order, with the most important parallel responsibilities of continuing to recruit and provide replacement personnel for those men lost in action by the field army. Once the army was formally mobilized about 1,400,000 men could take the field, with a further 960,000 joining them within four weeks. However, in a situation of extreme crisis Germany could muster as many as seven million men by calling out every reservist, the Landsturm, and men whose military training was still incomplete. By the turn of the century the legacy of the war machine that had served Bismarck and von Moltke so well during the 1870–1 conflict was a much-enhanced German army, which was now designed to satisfy the military and foreign policy requirements of the German empire in the new century.

The German Imperial Army (1880–1900)³

| Unit or Formation | c.1880 | c.1895 | 1900 |
|--|-----------------|-----------------|-----------------|
| Army corps districts | 19 | 20 | 23 |
| Infantry regiments | 166 | 215 | 215 |
| Infantry battalions | 513 | 605 | 625 |
| Jäger or Schützen battalions | 21 | 19 | 19 |
| Cavalry regiments | 93 | 93 | 96 |
| Cavalry squadrons | 469 | 469 | 482 |
| Field artillery regiments | 37 | 43 | 45 |
| Field artillery batteries | 364 | 494 | 574 |
| Foot artillery battalions | 31 | 37 | 38 |
| Pioneer battalions | 19 | 23 | 26 |
| Engineer battalions | Nil | 7 | 11 |
| Railway regiments | 2 | 3 | 3 |
| Railway battalions | 5 | 7 | 7 |
| Telegraph battalions | Nil | 3 | 3 |
| Balloon detachments | 2 | 2 | 2 |
| Military train battalions | 18 | 21 | 23 |
| Total officers | about 20,000 | about 23,000 | about 23,000 |
| Total NCOs and enlisted soldiers | 479,229 | 479,229 | 495,500 |
| | | | (established) |
| Approximate war strength of the fully mobilized army | up to 1,702,300 | up to 2,360,000 | up to 3,000,000 |

Organizational refinements and progressive increases in the army's strength were

not the only legacies of 1871. Technology had also played an important part in the outcome of the recent war, and certain matters now required urgent action to redress some weaknesses that had been exposed by the conflict. Foremost amongst these was the need to replace the army's standard rifle, the Dreyse needle-gun. In 1888 a new magazine-loading bolt-action rifle – the Mauser – was introduced throughout the army to replace its trusty but now badly outdated predecessor.

The first version of the new Mauser rifle had been a simple bolt-action single-shot weapon; in 1884 a tubular magazine was added (located within the stock); and in 1888, the version designated as the 'Mauser Box Magazine Repeating Rifle' (or the 'Rifle Type 88') was adopted and issued. The rifle's box magazine held five rounds (calibre 7.9 millimetres) which were loaded from a metal clip, the cartridges containing smokeless powder. The Mauser had an effective range of up to 4,336 yards (3,945 metres), although in most cases accurate fire at ranges up to 2,000 yards (1,800 metres) was the best that might be expected.⁵ A trained soldier could fire between ten and fifteen aimed shots each minute and as many as 30 rounds per minute at the rapid rate. Subsequent improvements and modifications to the rifle were carried out, and by 1914 the 'Type 98' was the standard rifle issued throughout the army, although numbers of the Type 88 were still in use at the outbreak of World War I.

Army Corps and Military District Locations (1900)⁴

| Corps | HQ Location | District |
|--------------------------|-------------------|---|
| Guard Corps | Berlin | Prussia & Alsace-Lorraine |
| I | Königsberg | East Prussia (designated as a 'frontier corps') |
| II | Stettin | Pomerania |
| III | Berlin | Brandenburg |
| IV | Magdeburg | Prussian Saxony |
| V | Posen | Duchy of Posen |
| VI | Breslau | Silesia |
| VII | Münster | Westphalia |
| VIII | Koblenz | Rhineland |
| IX | Altona | Schleswig-Holstein |
| X | Hannover | Hannover |
| XI | Kassel | Thuringia and Hesse-Nassau |
| XII (Royal Saxon No. 1) | Dresden | Eastern Saxony |
| XIII (Royal Württemberg) | Stuttgart | Württemberg |
| XIV | Karlsruhe | Baden (designated as a 'frontier corps') |
| XV | Straßburg | Alsace |
| XVI | Metz | Western Lorraine |
| XVII | Danzig | West Prussia |
| XVIII | Frankfurt am Main | Hesse (created 16 March 1899) |
| XIX (Royal Saxon No. 2) | Leipzig | Western Saxony (created 16 March 1899) |

| | | |
|--------------------|----------|--|
| I Royal Bavarian | München | Southern Bavaria |
| II Royal Bavarian | Würzburg | Lower Franconia and Palatinate |
| III Royal Bavarian | Nürnberg | Northern Bavaria (created 16 March 1899) |

Another weapon that had understandably attracted much interest during the Franco-Prussian War was the French army's mitrailleuse. Its true potential had not been properly appreciated by the high command of the army that developed and employed these early types of machine-gun, but their true significance was well understood elsewhere, especially so in Germany and Britain. In light of this, the invention in 1884 and subsequent development of the Maxim gun by the American-born British inventor Sir Hiram Maxim in his London factory owed much to the reputation the mitrailleuse had earned during the 1870–1 conflict. Maxims were used extensively by the British army during its colonial campaigns from about 1889 and were adopted by a number of other European armies and other forces. In 1887 the Maxim was demonstrated to Kaiser Wilhelm II, who was suitably impressed, although a full programme of trials was not set in train by the general staff until the early 1890s. These extensive trials eventually resulted in the Maxim's official adoption by the German army in 1899, followed by its subsequent manufacture under licence. By that stage the widespread availability of smokeless ammunition had overcome a significant drawback of the early machine-guns – the large amount of smoke produced when firing could both reveal the gun's location and obscure continued sight of its target. The version of the weapon made under licence by Germany was designated the 'Maschinengewehr Modell 1908' (MG 08), being fully accepted into service in 1908. At the same time as these new weapons entered general service, dedicated machine-gun units and detachments were established to man them, their role being to provide close fire support to infantry units, as well as to the army's cavalry divisions on mobilization.

Innovations in mobility, communications and surveillance (including the use of tethered observation balloons) also emerged during the American Civil War 1861–65 and Germany's war against France 1870–1. During the siege of Paris the beleaguered French garrison had enjoyed a fair degree of success in its use of balloon flights to communicate with the outside world, and this subsequently led to the development of manned, tethered observation balloons by the German army, with specialist balloon detachments appearing in the German order of battle soon after the war. The later establishment of the army's airship service with its Zeppelins had its origins in these developments. Following their successful use of telegraph communications to pass information, intelligence and instructions during the conflict, the army's telegraph units were also updated and expanded after the war. However, the army's principal means of operational deployment, resupply and communication continued to be the national railway system. Accordingly, the railway units were suitably enhanced, with improvements to the control and technology of the rail system also introduced, and effective rail movement continued to occupy a place at the core of German strategic and operational planning. It was a capability that would be vital if Germany were ever to be faced simultaneously with a war in the east and the west, with a consequent need to move forces rapidly between two widely separated fronts.