WEAPONS AND WARFARE

AN ILLUSTRATED HISTORY OF THEIR IMPACT

MEDIEVAL WEAPONS

KELLY DEVRIES AND ROBERT D. SMITH

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INTRODUCTION TO WEAPONS AND WARFARE SERIES

WEAPONS BOTH FASCINATE AND REPEL. They are used to kill and maim individuals and to destroy states and societies, and occasionally whole civilizations, and with these the greatest of man's cultural and artistic accomplishments. Throughout history tools of war have been the instruments of conquest, invasion, and enslavement, but they have also been used to check evil and to maintain peace.

Weapons have evolved over time to become both more lethal and more complex. For the greater part of human existence, combat was fought at the length of an arm or at such short range as to represent no real difference; battle was fought within line of sight and seldom lasted more than the hours of daylight of a single day. Thus individual weapons that began with the rock and the club proceeded through the sling and boomerang, bow and arrow, sword and axe, to gunpowder weapons of the rifle and machine gun of the late nineteenth century. Study of the evolution of these weapons tells us much about human ingenuity, the technology of the time, and the societies that produced them. The greater part of technological development of weaponry has taken part in the last two centuries, especially the twentieth century. In this process, plowshares have been beaten into swords; the tank, for example, evolved from the agricultural caterpillar tractor. Occasionally, the process is reversed and military technology has impacted society in a positive way. Thus modern civilian medicine has greatly benefited from advances to save soldiers' lives, and weapons technology has impacted such areas as civilian transportation or atomic power.

Weapons can have a profound impact on society. Gunpowder weapons, for example, were an important factor in ending the era of the armed knight and the Feudal Age. They installed a kind of rough

democracy on the battlefield, making "all men alike tall." We can only wonder what effect weapons of mass destruction (WMD) might have on our own time and civilization.

This series will trace the evolution of a variety of key weapons systems, describe the major changes that occurred in each, and illustrate and identify the key types. Each volume begins with a description of the particular weapons system and traces its evolution, while discussing its historical, social, and political contexts. This is followed by a heavily illustrated section that is arranged more or less along chronological lines that provides more precise information on at least eighty key variants of that particular weapons system. Each volume contains a glossary of terms, a bibliography of leading books on that particular subject, and an index.

Individual volumes in the series, each written by a specialist in that particular area of expertise, are as follows:

Aircraft Carriers
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Military Aircraft in the Jet Age
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Rifles
Submarines
Tanks

We hope that this series will be of wide interest to specialists, researchers, and even general readers.

Spencer C. Tucker
Series Editor

INTRODUCTION TO MEDIEVAL WEAPONS

WHATEVER ONE'S POLITICAL OR PERSONAL FEELINGS, it is undeniable that warfare is endemic in the cultures of the world—people have always fought one another for power, prestige, property, and/or influence. Into the past, one can trace the development of warfare from individual combat, warrior to warrior, to conflicts fought at greater and greater distances. Flint arrowheads and knives became bronze spearheads and axes, which became iron swords and crossbow bolts, which became pikes and guns, which became today's advanced weapon systems designed to hit targets at long distance—attacking from tens of miles away or, with intercontinental missiles, from across the globe. This book will outline the weapons used from the fall of the Roman Empire to the Renaissance—from the spear and sword to the handgun and from the mail shirt to the fully armored knight.

It is sometimes said that warfare is the force that drives technology as man's desire to constantly improve weapons and protection from attack is the primary impetus for change. While this need to constantly find better forms of attacking one's enemy and protecting oneself has been a major spur to change, it would be wrong to believe there is a direct and deterministic link. Advances in technology were, of course, exploited by the military and used wherever possible, but it is incorrect to believe the two were inextricably linked. Only occasionally, for example the development of cast-iron cannon in England in the 1540s, are there explicit examples of the desire to develop technologies for warlike purposes, and here it is doubtful whether the change was an "improvement" or was driven by economic and monetary ends. It is true, however, to say that weapons and technology did, and still do, have many links and connections, which make a study of the two important.

Cave paintings, the earliest illustrations of man's behavior, show early man armed with a variety of weapons. While it is true that most of these are hunting scenes, showing man against beast, some depict men fighting men suggesting that warfare has been endemic since the dawn of time. In these illustrations the soldiers, to use the term that would later be applied to their occupation, are armed with spears, clubs, and rudimentary bows, a means of fighting wars that would remain unchanged until the large-scale adoption of gunpowder weapons after 1500. The weapons themselves improved and diversified, and some soldiers would become specialists, including those who fought on mounts—horses, camels, and elephants—but essentially the categories of weapons remained the same: handheld weapons and close-range and long-range missile weapons.

As warfare became more and more common, these earliest humans, who seem, like their descendants, to have been especially partial to hand-to-hand combat, the desire for increased defense developed. Protection of the vulnerable torso and head encouraged the development of armor. Although not often depicted, a few cave paintings show soldiers who are outfitted with thicker articles of clothing and headwear than others, which some have described as wicker or bark armor. A natural progression to portable defenses, or shields, seems to have followed shortly.

Emerging from the ancient world was the largest political entity before the modern era, the Roman Empire. Rome extended its boundaries beyond Italy throughout the Mediterranean, the Middle East, and Western Europe using armies of unparalleled size and strength to overwhelm previous inhabitants, and using weapons and armor hardly changed in purpose from those seen in the cave paintings. But these arms and armor, tied into a system of economic unity and prosperity and combined with a strong centralized political and military control, good leadership, and discipline, enabled the Romans to create military forces, both regular and irregular armies, that were able to conquer their opponents, even those using similar weapons. When breakdown did occur, the "fall" of the Roman Empire was similarly not tied to the superior use of military technology by those who defeated Rome, but to a collapse of that central Roman control and military unity, discipline, and leadership.

From the remnants of the Western Roman Empire—the Eastern became the Byzantine Empire—grew Western Europe's medieval kingdoms. These first appeared as tribal states named after their barbarian conquerors—Ostrogothic Italy, Visigothic Spain, Frankish Gaul—and later, after the division of Charlemagne's united kingdom

by his grandsons, into the Holy Roman Empire (Germany), France, the Italian States, and the Low Countries, with bordering lands—England, Spain, and Scandinavia—militarily, diplomatically, and economically tied to them.

What the fall of the Roman Empire does mark is a transition in the population of Europe. For the next few centuries interactions between migrating peoples took the form of warfare, initially with the invasions of large barbarian forces and their families from over the Rhine and Danube Rivers and across the North Sea, and then with the settlement raids of Vikings, Hungarians, and Muslims. By the turn of the first millennium, the borders of Europe had been redrawn, and the earlier migrating peoples had become "Europeans." Confident in their civilization and religion, these Europeans convinced themselves to combine their militaries in purpose and leadership to attempt to retake the Holy Land and Spain from the Muslims who had occupied them for close to 500 years. In Spain, the crusades eventually removed Muslims from control, although not before 1492. But in the Middle East they were doomed to failure as local jealousies and national self-interests took their toll. There followed a period of intense internal strife and inter-European state conflict that marks the traditional division between the Middle Ages and the Early Modern period, even though it did not end in 1500 and, indeed, continued into the twentieth century.

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CHAPTER ONE

The Early Middle Ages, 376–750

HISTORY

The relationship between those living within the borders of the Roman Empire and those living without was never peaceful. Even when Roman political and military leaders did not send armies into these neighboring lands with the intent to extend the Empire, its borders were never entirely secure. The wealth of the Roman Empire was coveted by those unable to take direct advantage of it. This led to frequent border raids, forcing the Romans to build an extensive series of fortifications along much of their borders and station a large military presence along them. Even when natural hindrances to military activity were present, such as the Rhine and Danube rivers, the Saharan and Asia Minor deserts, and the North Sea, fortifications were built and garrisoned.

At the best of times, a fragile peace was maintained. Sometimes barbarian peoples were even allowed inside the borders of the Roman Empire, to settle in less populated areas or on less habitable terrain and to serve in the military as mercenaries. They were known as *foederati,* or confederates, but it seems that their presence was never entirely welcomed, and they were almost always treated with suspicion by the Romans themselves. As early as the first century, the respected writer Tacitus reported on those who lived across the Rhine and Danube. Germans, as he called them in his work *Germania,* were hard-working, family-oriented people whose lack of

civilization was more than made up for by their loyalty and military capabilities. They were to be feared, he warned in an almost prophetic voice, because they would be a formidable foe should Rome continue to decline.

Tacitus did not identify these Germans by the names they would eventually become known to the Romans. Nor did he know of the existence of the non-German peoples who invaded their lands, pushing the Germans in a domino-like fashion, farther west and south. By the third century, however, most Romans knew about them as their raids became ever more frequent, and from 235 to 268 AD they penetrated deeper into once-secure Roman territory than ever before. With the death of Emperor Alexander Severus in 235 AD, stable government was replaced by military anarchy and administrative chaos. Emperors did not last long, meeting natural or unnatural deaths in quick succession. Frequently, one army and its candidate for emperor would march to Italy only to be opposed by another army with its contender candidate for emperor. The previously almost impervious defenses of the Empire were weakened and left open to raiding armies of barbarians determined to plunder the riches of the Empire. In 249, the Goths, a Germanic tribe from across the Danube, broke over the river and invaded the Balkans. In 256, the Franks, who lived across the Rhine, crossed it to attack Gaul, while at the same time the Saxons, also from the Germanic Rhineland, crossed the English Channel and raided the shores of Britain. The borders of the Empire were being challenged everywhere. In 256, the Borani, a tribe living in southern Russia, raided the eastern coast of the Black Sea, and in that same year the Sassanid Persians from Mesopotamia overran Armenia and Syria and in 260 even captured and imprisoned the inept Emperor Valerian. Sometimes the Romans were able to repulse these invasions, but their victories were too few to keep out the flood of barbarian tribes. By 262, the Goths had completely taken over northern Greece as far south as Athens, although they were not actually able to enter the town and were eventually driven back. In 268, another Germanic tribe, the Heruli, repeated the feat of the Goths, only this time capturing and sacking Athens.

Ultimately, such raids and invasions resulted in an examination of the Empire's defenses and military priorities. The province of Dacia (modern Romania), unprotected by natural boundaries, was abandoned. Fortifications along the borders were rebuilt and strengthened, and new walls were constructed to protect the larger, populated areas of the Roman Empire. This included building a fortified wall around Rome itself; the Aurelian wall, named after the emperor

under whose initiative it was constructed, was 12 miles in circumference (20 kilometers), 12 feet thick (4 meters), and 20 feet high (6.5 meters). Designed not to withstand a lengthy siege, but to hold back a raid of barbarians, it included 31 fortified gates and towers, all equipped with artillery.

But the inexorable demise of Rome had begun. Despite what seemed like a sensible military reorganization and division of political power by Emperor Diocletian, the disagreements of his coemperors and successors led to years of civil war, which resulted in the removal of most Roman frontier troops. In 330, Constantine, the eventual winner of these conflicts, tried to bolster an Empire, that he in large part was to blame for weakening, by moving his capital away from Italy to the east, and rebuilding a small Asia Minor town, Byzantium, later to be called Constantinople. Did he believe the poorer, more vulnerable, western part of the Roman Empire could be allowed to fall to invaders while the richer, more defensible eastern part should be protected?

At Constantine's death in 337 the Empire still held together, though only tenuously. Forty years later, under Emperor Valens, the first group of barbarian tribes, the Visigoths, descendants of the third-century Goths who had invaded the Empire, successfully breached the Imperial defenses and remained, never to return or be forced back across the Danube River to their old lands. However, this breach was instigated in large part because of forces beyond the Visigoths or Romans. At some time during the middle of the fourth century, a new enemy of both emerged, the Huns. It is not known from where the Huns originated or why they chose to attack their neighbors at this time. It is usually thought that they originated in the steppe regions of Central Asia, and that they too were possibly being pushed out of their lands by the forces that would later be called the Mongols. The Huns not only attacked the Germanic tribes to their west and, eventually the Roman Empire, but they also went east and south, attacking China at about the same time. In the west, the attacks of the Huns pushed one tribe into another, eventually forcing the Visigoths into the Roman Empire.

In 376, the Visigoths found they had nowhere to go but into Roman lands. But they did not wish to do so by invasion. Instead, they petitioned Emperor Valens to allow them to cross over the Danube River and cultivate the wastelands of Thrace, and to become *foederati.* This request was not without precedent, nor could Valens easily turn it down, as refusal meant invasion rather than peaceful settlement. He agreed, but was unprepared for the large number

who moved across the Danube as an estimated 200,000 Visigoths crossed into the Roman Empire. Perhaps as many as 50,000 settlers could have been fed from the Imperial stores, at least until their own crops came in, but 200,000 could not. Within two years the Visigoths were starving, becoming a military threat. In response, Valens collected his army from the east and marched against them without waiting for reinforcements from the west. At Adrianople (Hadrianople), on 9 August 378, the two armies clashed. The Romans were completely defeated, and Valens himself was killed. The Visigoths were free to settle wherever they wished.

Within twenty years other tribes, notably the Alans, Suevi, Vandals, and Ostrogoths, followed the lead of the Visigoths and crossed into the Empire. Others, such as the Burgundians, Alemanni, Franks, Angles, and Saxons, followed them. In 410, the Ostrogoths, led by Alaric, invaded and sacked Rome after a decade-long siege. Alaric set up his own Roman emperor, but in 476, after a series of weak and inept "puppet emperors" had quickly risen and just as quickly fallen, Romulus Augustulus, the last Western Roman emperor, was deposed by Odoacar the Ostrogoth.

Because the Huns were "not well suited to infantry battles, but . . . nearly always on horseback," according to the fourth-century writer Ammianus Marcellinus, it is often assumed that this was true of the other barbarian tribes, too. In addition, the infamy of the Huns, so often testified to by contemporary authors, has distorted the image of all barbarian tribes. However, although the Huns fought primarily on horseback, the Germanic tribes who overran the Rhine and Danube borders of the Empire from the fourth century on fought mainly on foot and had only small cavalry forces. In the Roman army the cavalry was filled mostly by non-Romans who served as auxiliaries, while the infantry, filled mostly by Roman citizens, undertook the primary battlefield fighting. In contrast, the mounted troops of barbarian armies performed the principal maneuvers on the battlefield.

It is evident that horses provided barbarian troops not only with their primary means of fighting, but they were also a mark of social distinction and class. For most barbarian tribes, those who could afford horses and were trained in using them provided the military and political leadership. In two of the earliest of their battles with the Romans, Visigothic cavalry, although few in number (How could the army have acquired a large number of horses when starvation was forcing the military conflict?) may even have been instrumental in deciding the outcome. In 378 at Dibaltum, a cavalry force delivered

the decisive blow on a force of Romans who before then had been successful at withstanding infantry assaults. Even more impressive, in the midst of the battle of Adrianople, the Visigothic cavalry struck the rear of a weakened Roman left flank, crushing it and folding it onto the rest of the line, thereby greatly facilitating their victory.

However, before the end of the fifth century, the number of infantry in relation to cavalry had increased. Three theories for this are suggested. First, of course, cavalry required horses, and sometimes more than a single mount per soldier. These horses needed lots of pastures for grazing, lands that were readily available on the plains of the steppes, but not in Western Europe. Second, when not fighting against each other or against the Romans, barbarian soldiers often gained employment as mercenaries, in armies that were infantry-dominant, including those of the Empire. However, to make themselves more employable, they, too, had to learn to fight on foot. A final, perhaps more simple explanation of the transformation from cavalry to infantry may be that while the barbarians eventually conquered the Empire, it was a very lengthy campaign, with only a few military victories spaced out over more than two centuries of almost constant warfare. In truth, the Romans won more individual conflicts than they lost—although they lost the Western Empire, they held onto the Empire in the East—and these victories, which were brought about by infantry tactics, probably influenced barbarian military organization. All three of these explanations are probably correct in part, and all had the effect of decreasing the number of cavalry and increasing the number of infantry in early medieval barbarian armies.

There is also no doubt that Roman armies were influenced by those of the barbarians, and vice versa. This can be seen nowhere more clearly than in the generalship of the Roman army by Stilicho, himself a Vandal, or Aetius, who had spent his youth among the Ostrogoths and Huns. Both clearly prized their Roman military positions—and both also vied for political power in the Empire—but they also recognized the importance and, often, the superiority of barbarian strategy and tactics. The victory Aetius won over the Huns at the battle of Chalons in 451 is a good example. Realizing the need to stop the penetration of the Huns, led by Attila, further into Western Europe—they had most recently been besieging Orléans—Aetius used a personal bond of friendship and the fear of further incursions by the Huns in the west to make peace with the Visigoths in southeastern France and northern Spain. He then enticed them to join his army, an army composed of Alans, Ostrogoths, Visigoths,