

The Rise of Heavy Infantry and the Demise of Heavy Cavalry at the End of the Medieval Period

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The Medieval era extended from approximately the fifth to fifteenth century CE. While philosophers of the time examined the works of ancient writers to understand history and human nature, military leaders of the period also looked to the past for answers to the challenge of heavy cavalry. One group in particular, the Swiss, emerged with a unique answer to the power of heavy cavalry. The Swiss reinvented the heavy infantry formations used by the ancient Greek and Roman armies to great effect against their opponents. The unique topography and circumstances of the Swiss allowed them to implement a system of heavy infantry-centric warfare that profoundly influenced the European battlefield for several centuries from the Late Middle Ages into the Renaissance period. This Swiss method of war during the Late Middle Ages and Early Renaissance demonstrated the effectiveness of heavy infantry against heavy cavalry formations and relegated the once dominant armored knights to a lesser role.

Before the Renaissance began, the battlefields of Europe fell sway to the dominance of heavy cavalry or the armored knight during the Middle Ages. These armored juggernauts used the speed and weight of heavily armored horses combined with men armed with lances to smash infantry formations. The high-backed saddle and stirrup allowed armored knights to couch their lances and focus the weight of rider and horse into the tip of their lance. This tactic came to the forefront during the reign of Charles Martel (688-741) and his successful campaign against invading Muslim forces. Historian Kelly DeVries commented in his 2010 *Medieval Military Technology*, "These changes in military technology could only have been induced by the use of the stirrup by the Franks. When Charles Martel realized the true military worth of the stirrup, and he alone did so, he began to insist on its use by his soldiers."¹ Although debate may exist about who introduced the stirrup, little conjecture remains about the enormous influence it exerted upon mounted warfare.

While the stirrup and high-backed saddle afforded the heavily armored warrior increased control and capabilities, it did not defray the high cost of maintaining the panoply of armor, horses, and weapons required for heavy cavalry forces. Researcher Joshua Prawer referenced classic Templar records in his 2001 *The Crusaders' Kingdom* that listed the cost of armor and weapons as 1,500 to 2,000 silver deniers (about 8.33 pounds of silver).² This figure did not include the cost of multiple horses required for each knight and the special training and armor for horses. Historians such as DeVries and Judith

Bennett posited that the prohibitive cost of equipping such a force gave rise to the symbiotic relationship of feudalism between the knightly or aristocratic class and the peasantry. In the 2009 book *Men at Arms*, historian Richard Preston gave further credence to the relationship between the classes with the statement, "The core of the feudal system was a contractual relationship between lord and vassal at every rung of the ladder."³ Feudalism provided a system of collective defense amongst manorial estates and the vassals that worked the land to sustain a knightly class that protected them. Additionally, the aristocracy and knightly class maintained a military force to support the local king or ruler of a region.

The knightly class and aristocracy rose to power in Europe after the collapse of the Western Roman Empire. Although the city of Rome fell in 455 to the Vandals, the Roman Empire did not cease to exist overnight.⁴ Successor states emerged and loosely organized along the boundaries of former Roman territories and tribal areas of influence. Bennett noted in her 2006 *Medieval History*, "Bound together by kinship, comitatus, and law, barbarians eventually also began to form more permanent tribal kingdoms, and... a shared ethnic past."⁵ These successor states looked to the military strength of a king or tribal chieftain to protect their associated populations. This symbiotic relationship gave rise to manorialism where the peasants provided for the aristocrats and in return the aristocrats provided protection for the peasants. Bennett explained manorialism as, "In essence, manorialism linked the landed elite to the peasantry in a web of social obligations."⁶ This system placed greater emphasis on agrarian products and land ownership rather than any monetary system.

In an agrarian society that possessed very little in the way of currency or disposable income, land served as the most viable commodity that held any real value. By rewarding loyal subjects with land for service, the aristocracy perpetuated a system that stressed the competition for land. Bennett commented, "The granting of estates to armed supporters was a convenient way for a lord to maintain a retinue of warriors in an age when money was scarce and land abundant."⁷

The vicious cycle that resulted from a constant quest for additional lands kept feudal society in a perpetual state of warfare. Professor Brian Carey suggested in his 2009 *Warfare in the Medieval World*, "Furthermore, this dominance [heavy cavalry versus infantry] on the battlefield was reinforced by the mounted aristocracy's pre-eminent position in medieval society, a position that increasingly placed the militia foot soldier as a second-class citizen, one that would be used as fodder on the battlefield."⁸ While heavy cavalry enjoyed a preeminent position on the battlefield, the evolution of martial technologies began to erode the dominant position of the mounted aristocracy.

The light infantry of the eleventh to thirteenth centuries marked

one such development of improved tactics and technology with such inventions as the crossbow and longbow. The improvement in missile technology allowed light infantry forces to kill at greater distances and the ability to penetrate even the thickest armor at close ranges. The knightly class viewed missile weapons with some disdain, but the battles of Crecy and Agincourt during the Hundred Years' War (1337-1453) displayed the fallacy of heavy cavalry operating independently of accompanying infantry forces especially against opponents equipped with missile weapons. While the English used the longbow to great effect with their combined formations of heavy cavalry and light infantry, the Swiss turned to ancient infantry formations to provide the answer in countering heavy cavalry forces.

The Swiss did not possess extensive land holdings or access to heavy warhorses and the costly armor associated with heavy cavalry. Due to the rugged terrain and their limited resources, the Swiss naturally favored fighting on foot rather than the mounted combat system so prevalent throughout much of Medieval Europe. Renaissance historian and philosopher Niccolò Machiavelli commented in his *Art of War*, "From this it arises that, since they were on foot and wished to defend themselves from an enemy who was on horseback, they had to search the ancient orders again and find arms that might defend them against the fury of the horse."⁹ In many aspects, the Swiss militia system mirrored the hoplite warfare of the ancient Greek militias. Each Swiss citizen underwent compulsory military training and had to provide their armor and weapons. Unlike their mounted opponents, the Swiss only wore a breastplate and steel cap for armor.¹⁰ This offered the Swiss two distinct advantages, the reduced cost of outfitting forces and an unencumbered force that moved quicker than its heavily armored opponents did. By keeping the cost to outfit forces reduced, the Swiss ensured maximum participation from their citizenry and the lightened loads allowed Swiss soldiers to muster and march quickly to defend their territory.

The Swiss developed their system of combat in response to the encroachments of feudal neighbors. Unlike many other forces of Europe, the Swiss did not fight to gain further land to perpetuate feudalism, the Swiss initially fought to defend their homes. Preston noted, "The Swiss Confederation, formed in 1291, was an alliance of the Forest Cantons of Uri, Schwyz, and Unterwalden, whose free peasants, directed against the feudal domination of the Austrian Habsburgs."¹¹ The Swiss initially used a formation similar to a Greek phalanx and armed their forces with a pole arm called a halberd. This eight foot long weapon consisted of a hardwood shaft and a tip that combined an axe, spear tip, and hook into one murderously effective weapon. The halberd allowed Swiss militiamen to pull opponents from their horse, thrust with the spear into unprotected areas, and deliver a chopping blow with the axe head. The Swiss drilled their formations to quickly transit from a marching column into a battle square as the situation dictated. The relative simplicity of the form-

ation allowed the Swiss to follow the man to their front and the first four ranks to level their halberds while the remaining ranks kept their weapons upraised to quickly fill in gaps.

This highly effective formation presented a hedgehog of halberds that quickly pierced or chopped any opponents that came within reach, regardless of which angle they attacked the Swiss. To further enhance the control over their formations, the Swiss used a drum to control the pace of formations and some historians opined that the Swiss used cadence in their formations.¹² While the Swiss enjoyed initial success in such battles as Mortgarten in 1315, the topography of the mountain passes aided their success by negating the shock value of heavy cavalry. Narrow roads, hilly terrain, and thick forests marginalized the maneuverability of heavy cavalry. Conversely, that same restrictive terrain favored the tight formations of the Swiss as they presented a steel quill equipped porcupine that the cavalry could not maneuver around. However, the Swiss did not devise a truly effective counter to heavy cavalry until the mid-fourteenth century.

By combining the defensive superiority of the Greek phalanx equipped with pikes and the offensive capability of Roman infantry tactics, the Swiss developed a well-articulated heavy infantry formation that proved the nemesis of heavy cavalry formations of the era. Preston opined, "But, like the Romans, the Swiss were not content with mere defensive passivity: they thought in terms of attack, and shaped their tactics to suit the offensive."¹³ To that end, the Swiss employed pike men equipped with pikes approximately eighteen feet in length at the fore of their formations and in the center a core of halberds that rushed out from the squares to quickly dispatch any opponents skewered at the end of the longer pikes. This formation allowed the Swiss to keep the cavalry at a fixed distance with their pikes while the halberds acted as the maneuver force to close on the cavalry. The Swiss also incorporated missile troops as skirmishers to help screen enemy forces and to protect their flanks and rear once the battle began.¹⁴

The Swiss tactical system began to dominate the battlefield by the late fourteenth century and by the mid fifteenth century; the Swiss enjoyed a reputation of near invincibility. During this period the Swiss militia or troops consisted of three categories as referenced by Carey, "the *Auszug* or elite forces, composed of mostly unmarried men between the ages of eighteen and thirty; the *Landwehr*, or primary combat force, composed of men willing and able to leave home if the need arose; and the *Landstrum*, or levée en masse of all able bodied men, a reserve force called to arms only in an emergency."¹⁵ Perhaps no other campaign heightened the prestige of Swiss forces than their successful defense against the duke of Burgundy, Charles the Bold (1433-1477) during the Burgundian wars from 1476-1477. Charles developed a combined army of approximately 30,000 men that consisted of heavy cavalry, heavy infantry, light infantry

archers, handgunners and crossbowmen, and several pieces of artillery.¹⁶ By all contemporary accounts, Charles' forces comprised the cutting edge of available military technologies.

Despite the modernity of Charles' forces, the Burgundians suffered three successive losses that culminated with the death of Charles at the Battle of Nancy in 1477. In each of the three battles that Charles faced the Swiss, he failed to disrupt the Swiss formations and account for their inherent knowledge of the landscape of their homeland. Just as the ancient Greek hoplites quickly mustered to defend their *polis* (city-state) from invaders, the Swiss also fought to defend their homelands against an existential threat. Charles did not face an army determined to fight a fixed piece battle that allowed Charles to dictate the terms of the battle, but an army determined to win at any cost. Charles incurred the wrath of the Swiss when he invaded Swiss territory and executed the garrison defenders in the city of Grandson in 1476.¹⁷ Charles incorrectly assumed that his modern army and their superior technology provided a perfect counter to the Swiss heavy infantry formations and that his forces would easily defeat the Swiss.

In the span of a year, the Swiss disproved Charles' assumption. The relatively slow rate of fire of period artillery and Charles' inability to fix or keep the Swiss units within his fields of fire prevented Charles from significantly depleting Swiss forces before they closed upon his ranks and employed their devastating pole arms. Charles over reliance on missile weapons and lack of an effective counter to the Swiss pikes greatly increased the chances of Swiss victory any time the Swiss approached within close combat range of the Burgundian forces. One can imagine the difficulty associated with trying to defeat an opponent equipped with a pole arm some eight to eighteen feet long while only using a sword some three feet or less in length. This disparity coupled with the Swiss penchant for killing any opponent encountered on the battlefield and refusal to offer quarter, added to the growing Swiss reputation of murderous effectiveness. Carey commented, "The result of this deliberate psychological warfare was a reputation that struck terror into their enemies, adding to the mystique of this emerging tactical system."¹⁸ The Swiss notoriety grew not from idle boasts, but from repeated success and ruthless efficiency on the battlefield.

The Swiss reputation for ferocity and discipline did not result from one battle but developed over a period of two hundred years. Even in defeat, the Swiss projected a fearsome reputation that did not waver, despite the overwhelming odds that the Swiss sometimes faced. In a battle reminiscent of the Spartan stand at Thermopylae, 1,500 Swiss pike men faced a French host of over 20,000 men at the Battle of Saint Jacob-en-Birs in 1444.¹⁹ The Swiss, nonplussed by a foe with superior numbers attacked the French, but after five hours of withering crossbow fire and withstanding cavalry charges withdrew to the hospital of Saint Jacob where they continued to resist, but they

eventually died to the man.²⁰ The Swiss sought no quarter from the French and impressed their attackers with their bitter resolve.

The Swiss enjoyed such notoriety that other countries sought to hire groups of Swiss soldiers as mercenaries. Historian McKean Page recalled that Pope Julius the II hired a company of Swiss soldiers in 1506.²¹ The Swiss soon proved their worth as Papal guards during the sack of Rome in 1527. The Vatican Archives recorded the valiant stand of some one hundred and eighty-two Swiss guards that fought a Spanish force that severely outnumbered the Swiss defenders, with only forty two Swiss guards that survived to guide Pope Clement VII to safety at Castel Sant'Angelo.²² The Swiss Papal Guard continues their service to the Pope today and still wears their traditional uniforms and armaments of the sixteenth century. Other countries such as Germany, France and Spain incorporated Swiss mercenaries into their ranks and adapted the Swiss method of warfare. Machiavelli observed that other European contemporary armies "imitate the Swiss."²³ The Swiss method of heavy infantry-centric warfare exerted a profound influence during the Late Medieval period and Early Renaissance.

While the Renaissance witnessed the birth of humanism and the veneration of ancient writings and civilizations, it also marked the simultaneous decline of feudalism and the dominance of mounted knight. The knowledge of the ancients inspired philosophers such as Petrarch and Mirandola to address the capabilities of man and self-determination, but the Swiss applied the lessons of the ancients to successfully defend their territory. The Swiss did not seek a higher truth but a utilitarian answer that countered the effectiveness of heavy cavalry. What began as a dire need evolved into a highly effective system of combat that used heavy infantry tactics of the ancient Roman and Greek armies to reshape the battlefields of the Late Medieval period and the Early Renaissance. The Swiss method of war effectively ended the monopoly of heavy cavalry and used heavy infantry formations and tactics borrowed from the ancients as the instruments of change. The discipline and the ferocity of the Swiss pike wielding formations often overcame better equipped opponents and cemented the Swiss tactical system as the dominant method of combat for the era.

Notes

¹ Kelly DeVries, *Medieval Military Technology* (Ontario, Canada: University of Toronto Press Incorporated, 2010), 101.

² Joshua Prawer, *The Crusaders' Kingdom: European Colonialism in the Middle Ages* (London, UK: Phoenix Press, 2001), 338.

³ Richard Preston and others, *Men in Arms: A History of Warfare and its Interrelationships with Western Society*, 5th ed. (Mason, OH: Cengage Learning, 2005), 59.

⁴ John Warry, *Warfare in the Classical World: An Illustrated Encyclopedia of Weapons, Warriors and Warfare in the Ancient Civilisations of Greece and Rome* (Norman: University of Oklahoma Press, 2006), 209.

⁵ Judith M. Bennett, *Medieval Europe: A Short History*. 11th ed. (New York, NY: McGraw-Hill, 2011), 23.

⁶Ibid., 87.

⁷Ibid., 118.

⁸Brian Carey, *Warfare in the Medieval World* (Barnsley, UK: Pen & Sword Military, 2006), 84.

⁹Niccolò Machiavelli, *The Art of War*, ed. and trans. by Christopher Lynch (Chicago: University of Chicago Press, 2003), 35.

¹⁰Preston, *Men in Arms*, 81.

¹¹Ibid., 80.

¹²Carey, *Warfare in the Medieval World*, 179.

¹³Preston, *Men in Arms*, 81.

¹⁴Carey, *Warfare in the Medieval World*, 180.

¹⁵Douglas Miller and G. A. Embleton, *The Swiss at War, 1300-1500* (Oxford: Osprey, 1979), 3-4, quoted in Brian Carey, *Warfare in the Medieval World* (Barnsley, UK: Pen & Sword Military, 2006), 180.

¹⁶Carey, *Warfare in the Medieval World*, 193.

¹⁷Ibid., 195.

¹⁸Ibid., 184.

¹⁹Ibid., 192.

²⁰Ibid.

²¹McKean Zyromski Page, "The Swiss Guard," *Catechist* 40, no. 3 (2006): 47, <http://search.proquest.com/docview/213795740?accountid=8289>.

²²"Swiss Guard- History," *Roman Curia*, http://www.vatican.va/roman_curia/swiss_guard/swissguard/storia_en.htm (accessed April 10, 2013).

²³Machiavelli, *Art of War*, 74.

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