The Rebirth and Progress of the Polish Military During the Interwar Years

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Abstract
This article traces the history behind the myth of Polish horse cavalry charging German tanks in the opening days of the Second World War. Focusing on Polish sources, it argues that while the cavalry did not charge armored vehicles, it was nonetheless a vital branch in the Polish military at the outset of the war. For most of the interwar era, the Soviet Union was a greater threat to Polish security than Germany. With a vast eastern front to defend, limited industrial production, and difficulty obtaining foreign loans, the cavalry served as an important component of the Polish army against Soviet offensive military doctrine. Even though war first erupted with Germany, the branch still proved its effectiveness by adapting to the modern battlefield. Horses were mainly used for transportation and maneuvering rather than fighting. Although seen as an outdated weapon by many over the years, the evolution of armor and cavalry in Poland was similar to that in other countries.

It is close to eighty years since the German invasion of Poland ignited the Second World War in the European theater, yet there are still many untold stories about that event and many others which are clouded by years of misleading information and partial understanding. One such account, which till this day is immersed in much confusion, is the historical narrative of the Polish horse cavalry during the September Campaign of 1939. One of the most familiar and repeated images over the years has been that of Polish cavalry charging German tanks on the battlefield. Even though in recent years the historical accuracy of this claim has

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been corrected by numerous sources, decades of erroneous repetition ingrained at least portions of this myth not just in the minds of the general public, but also in scholarly publications. However, the Western image of Polish horsemen charging German tanks is about more than just the futility of lance- or saber-wielding cavalry attacking armored vehicles; it is symbolic of a view in the West that Poland in 1939 was a poor, largely agrarian country whose military was woefully underdeveloped and thus incapable of defending the nation. However, just as the image of cavalry charging tanks is a myth, so is the picture of an interwar Poland mired in the past and unreceptive to changes in military technology and tactics. To the contrary, the evidence shows that, in spite of daunting challenges, Poland made great strides in the interwar years in building up its economy and developing a modern military force, in which the cavalry arm played a crucial role.

In the early seventeenth century the Polish Commonwealth was one of the strongest and largest countries in Europe; however, in 1772 and again in 1793, Prussia, Austria, and Russia joined forces to carve up most of Poland between them. In 1795, the three great powers completed their partition of the country, this time completely wiping it from the map of Europe. Although Poles struggled to regain independence, as witnessed by major revolts in 1830, 1846, 1848, and again in 1863, ultimately the uprisings were crushed. The result of foreign occupation was decades of economic and political policies aimed at destroying, or at least minimizing, the Polish culture, and in some areas even the ethnic group as a whole. In 1918, Poland regained its independence after 123 years of foreign rule, only to face the daunting task of rebuilding the nation anew. When the First World War erupted, the Eastern Front ran through the Polish lands, resulting in the destruction of over 40 percent of major bridges, about 60 percent of train stations, and in some places 30–40 percent of buildings.¹ Some 11 million acres of previously cultivated farmland lay unused, forcing the nation to import as much as 7 million tons of foodstuffs annually as late as 1921.² Aside from the material destruction, the loss of human life in these territories was equally catastrophic. Due to the fighting and typhoid and influenza epidemics, close to 15 percent of the population had died by the end of the war, a figure comparable with that of the Second World War, in which about 18 percent of the population perished.³

From an economic perspective, the country was in ruins. When the war ended, Russia expropriated 150 major factories from the Polish lands. Germany and Austria did the same, resulting in a situation at the end of 1918 where only 14 percent of the jobs held by workers in 1913 were still available.⁴ Magnifying the problem of high

unemployment in the early 1920s was hyperinflation, which Poland experienced along with many other countries in postwar Europe. In December 1918, one American dollar bought 9.8 Polish marks; however by January 1924 it was worth just over 10 million Polish marks.\(^5\) This in turn provoked industrial workers to launch strikes, which in some cases became disruptive enough that local army units were obliged to halt their regular duties in order to enforce the peace. The economic turmoil in turn fueled political chaos, with various parties having their own visions of fixing the problems, ultimately resulting in the May 1926 coup d'état by Józef Piłsudski. Also damaging to the Polish economy was a customs war which began with Germany in June 1925 and lasted for almost ten years. This was particularly burdensome to the Polish economy since Germany, along with Austria and Russia, made sure before the war that the Polish lands did not function as a single economic unit, hence although the various Polish regions imported and exported goods, less than 10 percent of trade occurred between these regions themselves.\(^6\) This meant that an integrated Polish economy was almost non-existent and therefore that to a large degree Poland was dependent on trade with countries like Germany. Although during the customs war both countries sharply increased tariffs on each other’s products, in 1923 more than half of Poland’s exports went to Germany while less than 4 percent of German goods were traded with Poland.\(^7\)

Creating a unified economy was only a small portion of an immense task ahead. Because of the pre-independence divisions, the new nation emerged with four different legal systems, six different currencies in circulation, three railway networks, and three administrative and fiscal systems.\(^8\) The problems of unification and standardization were clearly visible in the military. The drill books, weapons training, language of command, and rules of seniority all had to be rearranged and standardized.\(^9\) The army was equipped with fifteen different rifles and ten different machine guns, all of which used different ammunition.\(^10\) It was not unusual to find a single Polish division using four different rifles (French Lebel, Austrian Mannlicher, Russian Berdan, German Mauser), each using different ammunition.\(^11\) In addition to these obstacles to training troops and supplying ammunition, many times proper training had to be forgone because of the need to deploy the army to fight on the border against Ukrainian and Bolshevik forces. While treaties made Poland’s western borders relatively secure, its eastern and southeastern boundaries were so poorly defined that conflict with its

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\(^7\) Ibid., 204.

\(^8\) Zamoyski, *Poland*, 307.


neighbors, particularly Soviet Russia, was virtually inevitable. Border conflicts created tense relationships with neighboring countries in the region; for instance, disputes over the Vilnius region had the Lithuanian government insisting until 1938 that a formal state of war existed with Poland. Ultimately in the interwar years, Poland had a positive rapport only with Latvia and Romania.

Due to these border conflicts, along with a bloody war with Soviet Russia from 1919 to 1921, Poland had to keep its military constantly active. Compounding these problems were regular anti-Polish guerrilla activities in some regions of the country, along with uprisings in Silesia and Poznań, all of which required substantial deployment of military units and increased government spending. This situation did not improve much over the interwar years, as various threats kept the military in a state of continuous mobilization. For instance, in 1930 an Organization of Ukrainian Nationalists began a campaign of terrorism and sabotage, polarizing attitudes by murdering Ukrainians who sought compliance with the Polish government and Poles sympathetic to the Ukrainian cause. Furthermore, Germany used German-speaking minorities within Poland for espionage purposes, at one time operating some twenty-two German centers of intelligence in the country. Soviet espionage was extensive as well, with over 300 agents being captured yearly by Polish counterintelligence. Therefore, while most other armies in Europe were able to demobilize at the end of the First World War, freeing up funds for future development of their nations, the Polish government had to spend a vast amount on armed confrontations. In 1919 military spending accounted for 49 percent of the national income. The situation did not improve quickly either, with about 40 percent of the national budget still being spent on the military in the years 1921–1926. Even though such a huge percentage of the national wealth went to the military, it was only a fraction of what was truly needed by the armed forces. Funds not immediately spent on conflicts had to be diverted for basic necessities which were already existent in other countries, such as barracks for soldiers, uniforms, or training schools.

Although the Polish military had to face various security risks, the most serious threat to the new nation was a two-year war with Soviet Russia in which Poland had to rely on itself without much assistance from Western Europe. As Heliodor Sztark, Consul General of Poland in Pittsburgh, put it: “The Poles appealed to the Allies for help in the war against the Soviets. Here is what they got. One French

14. Zamoyski, Poland, 304.
general, some ammunition which was never delivered because of the strike of port workers at Gdańsk or Danzig, and the other train load of ammunition was held up by the Czechs, and some free advice.” The conflict with the Soviets erupted in February 1919 and officially lasted until March of 1921 when the Peace of Riga was signed defining the eastern boundaries of Poland. Not only was it a border war, but it also became an ideological war due to Vladimir Lenin’s and Leon Trotsky’s dream of spreading the Bolshevik Revolution into Germany and the rest of Europe. As Marshal Mikhail Tukhachevsky, commander of the Western Front, proclaimed in 1920: “Turn your eyes to the West. In the West the fate of World Revolution is being decided. Over the corpse of White Poland lies the road to World Conflagration. On our bayonets we will bring happiness and peace.”

The conflict was brutal and bloody, leaving almost 48,000 dead on the Polish side, and causing large-scale material destruction. Even though a nonaggression pact was eventually signed between the two countries on 25 July 1932, the relationship between them remained cold and distrustful throughout the interwar years.

The 1919–1921 war not only proved that Poland was capable of defending itself against a strong opponent, but also demonstrated how valuable the cavalry arm was in this part of Europe. In Western Europe, the experience of trench warfare and abundant quantities of modern weapons during the First World War ignited a vigorous debate about the future use of horse cavalry. Military theorists such as Major J. F. C. Fuller and Captain B. H. Liddell Hart became devoted supporters of armored vehicles; to them, cavalry had become an outdated weapon with no future benefits. This conclusion was shared with certain influential statesmen, for instance the former prime minister of Great Britain, David Lloyd George, who wrote in his memoirs: “The Russian Government [during the First World War] was thinking only of how it could supply forage for its immense cavalry establishment, which rendered no decisive service in War, and the transport which should have been used to feed the cities was diverted to the feeding of idle horses and useless horsemen.” He took the same pessimistic view of the cavalry in all the other armies that participated in the war, including the British. Since the end of the First World War, cavalrymen often served as a convenient scapegoat for military setback and the dismissive attitude towards them became deeply entrenched in military historiography. Nations that would rely on the use of cavalry would be perceived as outdated and unreceptive to changes in military realities.

18. Address of Heliodor Sztark, Consul General of Poland, delivered before the Foreign Relations Club of the University of Pittsburgh, 30 March 1944, Nr. 97, Archiwum Heliodora Sztarka, sygn. 5, Józef Piłsudski Institute of America Archives, New York.
This was the exact mold in which the Polish military found itself at the end of the Great War. The war which broke out between Poland and Soviet Russia just a year later quickly proved the opposite, however. Eastern European geography, with its vast wide open spaces, made the reliance on horse cavalry a necessity. Most tanks in Western Europe at the end of the First World War served as infantry support vehicles, which meant that their slow speed was not sufficient for military action in much of Eastern Europe, where fast movement over great distances was the norm. Furthermore, both Poland and Soviet Russia proved that they were able to adopt new doctrines for their horse cavalry and use it effectively on the modern battlefield. After the Bolshevik Revolution in 1917, Leon Trotsky, the founder of the Red Army, held a negative view of cavalry, believing it to be an aristocratic arm. However, the White Army’s successes in using cavalry during the Russian Civil War changed his mind. In June 1919 he wrote to Vladimir Lenin: “Cavalry is essential at all costs . . . All that needs to be realized is that the issue of victory or defeat turns on this.” Hence, a 30,000-man 1st Cavalry Army (Konarmiia) was created. Its veterans, Semyon Budyonny, Klimenti Voroshilov, and Semyon Timoshenko, dominated Soviet military doctrine throughout the interwar years with their focus on mobile, offensive warfare. As late as 1934, at the 17th Soviet Party Congress, Voroshilov argued: “first and foremost, it is necessary to put an end once and for all to the wrecking ‘theories’ on the substitution of machines for horses, on the ‘withering away’ of the horse.”

The Soviet cavalry proved especially useful in part due to new tactics which were adopted on 2 June 1920, when the Konarmiia’s commanders assembled for a conference on tactics, agreeing that methods used against the White Army were inadequate against the Poles. Cavalry charges against entrenched infantry were deemed pointless and were replaced by dismounted approaches supported by artillery barrages; mounted cavalry were used for speed to turn the flanks and encircle the enemy. Poland’s commander, Józef Piłsudski, also adopted new tactics, which enabled him to save Warsaw and force the Soviets to the negotiating table to end the war. He believed that the concept of linear, immobile defense used on the Western Front during the First World War was inadequate on the Eastern Front due to the vastness of the territory and, at least for the Poles, the relative lack of soldiers. Therefore he abandoned the recommendations of Poland’s French military advisors and focused on maneuverability, speed, and surprise. Since throughout the war the Soviet cavalry was more numerous and Poland did not have enough soldiers to adequately defend its entire border, the Polish army relied on faster concentration.

25. Ibid., 3.
of reinforcements in critical areas. Hence, with a lack of modern roads or railroads and broad plains without adequate forces to defend them, cavalry became a key component of the Polish military due to its ability to maneuver quickly.

It is easily forgotten, however, that, despite its importance, the Polish military did not rely solely on its cavalry during the war against the Red Army. Poland was one of the first countries after the First World War to acquire and use modern tanks. In late 1919 transports began arriving in Poland carrying what had been the French 505 Tank Regiment, now converted to the 1st Polish Tank Regiment with 120 Renault FT-14 tanks, forty-one vehicles, seven tractors, and ten motorcycles. Upon arrival they were immediately transported to the Eastern Front to fight the Bolsheviks. At the conclusion of the war, a Central Tank Academy was established in Warsaw and efforts were promptly made to acquire more armored vehicles. Furthermore, Poland sent recruiters to London and Paris where they were able to enlist a number of demobilized British and American pilots who had fought in the First World War. They were brought to Warsaw and outfitted with captured German planes, becoming the Kościuszko Squadron. The Polish military clearly was well aware of the value of modern weapons such as armored vehicles and airplanes and, despite financial strains, made attempts to build up its own inventory of them.

As the 1920s were drawing to a close, Poland was able to stabilize its economic and political situation, as well as improve the standard of living of its citizens. Relative peace, compared to earlier in the decade, finally allowed much needed time for the armed forces to unify, standardize, and rebuild their military potential. This situation did not last long, however, as Poland soon found itself entangled in the worldwide depression which began in America in 1929 and engulfed Europe shortly afterwards. Polish coal exports fell by 25 percent, steel production dropped by 20 percent, textile production shrank by 33 percent, and agricultural prices declined on average more than 60 percent. In the next few months, the economic situation deteriorated even further, to the point where by 1932 industrial production had fallen to 54 percent of its 1929 level and by 1933 one out of every three industrial workers was unemployed. Amidst this crisis, it should not be forgotten that the customs war with Germany continued to put additional economic pressure on the already weakened Polish economy.

In a time of such great adversity, the young nation was nevertheless able to achieve significant results. By the 1930s, Poland had been able to compensate for its losses in the First World War, economically knit together the land, create a

31. Hetherington, Unvanquished, 660.
32. Lukowski and Zawadzki, Concise History, 244.
national market, and unify and stabilize the Polish currency to the point where it became one of the most stable monies in Europe. The new port city of Gdynia was transformed in less than fifteen years from a small fishing village to the most prominent entrepôt in the Baltic and one of the chief ports in the world. A Central Industrial Region was established in 1937 and began intensive industrial production. In the twenty years of its independence, Poland had become the world’s eighth largest producer of steel and its ninth largest producer of pig iron, while occupying the highest levels of social security in the world. Compared to other European nations, Poland was able to make a swift recovery from the depression in the 1930s; the country succeeded in getting back to the level of the Industrial Index of 1928 (= 100) by 1938–1939 (= 119), while Belgium and France stood at 81 and 82 respectively. The Royal Castle was restored in Warsaw, numerous libraries and museums were opened, and a system of compulsory and free primary school education was established. Already by 1929 more than 95 percent of Polish children were in school. Great improvements were likewise made to the infrastructure of the country: for instance, the number of power plants rose from 835 in 1925 to 3,198 by 1938.

Much success was also achieved in the military. Unlike in the 1920s, when Poland relied heavily on imported equipment and foreign skilled personnel, in the 1930s the military was able to lean on a new generation of engineers and technicians graduating from Polish universities. For example, in 1929 a cryptology course was organized in the Poznań University Mathematics Institute with the result that in January 1933, Polish mathematicians were successful in deciphering the German Enigma code and by mid-1934 had produced fifteen replicas of the Enigma machine in Poland. In July 1939 the Poles shared this breakthrough with the British and French, contributing significantly to the breaking of German codes during World War Two. Poland also was the source of many inventions such as the first periscope to provide tank commanders with a 360-degree view without turning their heads. The periscope was designed by Rudolf Gundlach in 1936 and patented in 1938; the apparatus was used in thousands of tanks during the Second World War. By the late 1930s Polish engineers had also designed excellent models of rifles, aircraft, and tanks. Some examples included the PZL P.37 Łoś, which compared favorably with

38. Galicki et al., *Encyclopedia*, 86.
the best medium bombers in the world, although only 180 of them were completed before the war began.41 In 1935 production also began of the 7TP light tank, which was considered a better tank than most German tanks then in use. However, on 1 July 1939 there were only 139 of them, which made up about 15 percent of tanks in service in Poland at the time.42 Many other projects were simply not ready when the war began. State-of-the-art aircraft, such as the LWS-3 Mewa and PWS 33 Wyżeł, along with the modern 4TP light tank and 10TP medium tank, were still in the prototype stage or not yet fully armed in 1939. Despite the limitations on production, it should be clear that the claims over the years about Poland being ignorant of modern warfare are simply not justified by the record of development and investment in military projects.

Even though there were numerous exceptional designs of various weapons, their rate of production remained modest as the Polish economy and industry were not able to match German or Soviet capabilities in the 1930s. Although urbanization, population, and production were all on the rise in Poland, the reality was that twenty years was just not enough time to catch up to nations such as Germany. To give some perspective, in 1938 for every 10,000 inhabitants there were 10 cars in Poland while in France there were 523 and Germany 251.43 Consequently modernization of the military depended on more than just the increased amount of matériel produced; it also involved devoting a portion of the military budget to objectives which indirectly benefited the military, such as assisting civilians in purchasing equipment like trucks and cars. Such actions promoted the economy, developed technological sophistication among people, attracted foreign capital, and produced items that could be requisitioned in time of war.44 However, time was required in order for the full results of such a plan to be realized, time which ran out for Poland in 1939.

Another factor that needs to be taken into consideration was the fact that increased mass production of the new military inventory was beyond the nation’s financial capacity and that securing foreign capital was not easy. Since 1918 Poland struggled to attract foreign capital and even attempts in the late 1930s to obtain financial support from its British and French allies proved a difficult undertaking. Due to their own financial situation, the British government was prepared to offer only a tenth of the sum requested by the Polish government and the agreement was made just a few days before the Second World War erupted.45 The French also were not forthcoming with financial assistance after making a loan in 1936.

41. Lukowski and Zawadzki, Concise History, 254.
addition, requests made by Poland to buy the Somua S35 tank, which the French considered their best tank, were denied and instead the Poles were offered the Renault R35 tank. In April 1939 Poland bought 100 of these tanks, along with three Hotchkiss H35s for comparison purposes.46

Thus with time running out on domestic production of armored vehicles and facing difficulties in obtaining substantial loans or buying preferred equipment, Poland found itself in a difficult situation on the outbreak of the war. Poland had already experienced problems with armor in the fight with the Bolsheviks in the early 1920s. As the Red Army was closing in on Warsaw, only thirty-three Polish tanks were fit for service while others lacked fuel or spare parts and were unusable.47 Also problematic on the Eastern Front was the fact that early tanks were slow and had limited range. Although tank technology had improved remarkably since the First World War, the reality was that French military doctrine was defensive in nature and many tanks, including the Renault R35 purchased by Poland, were infantry support tanks which meant that their maneuverability for fighting on the plains of the Eastern Front would be inadequate. Further shortcomings were experienced in the areas of spare parts for equipment and oil supply. Prior to 1939, Poland did have oil fields in Borysław (in modern day Ukraine) but their exploitation was limited, both in refinery capacity and total amount obtained.48 This issue arose precisely in September 1939 when many units lost armored vehicles not to enemy fire as much as to lack of fuel or spare parts, and were forced to destroy the equipment themselves. For instance in September 1939, the 2nd Armored Battalion lost thirty-one tanks out of forty-nine (63 percent) due to lack of fuel or spare parts and not to enemy fire.49

While the focus is usually placed on comparing the number of German and Polish armored vehicles, the situation was far more complex. The problem of achieving rapid maneuverability on a wider front, the shortages of fuel and spare parts, and the difficulties of coordination were potentially serious enough to have created chaos on the battlefield regardless of how many tanks were available. Furthermore, Soviet military doctrine was based on rapid offensive maneuvering, which called for the cavalry (by the mid- to late-1930s replaced by armored-motorized units) to outflank the enemy, penetrate about forty to sixty kilometers deeper than main armies and attack critical areas in the rear and on the flanks of the enemy.50 German doctrine was similar in nature, with a focus on outflanking and encircling the enemy. Polish plans, therefore, relied on swift movement for defense, whether at war with the Soviet Union or Germany. Considering the serious problems with armored units and their limited maneuverability, it was not

surprising to find a large degree of reliance placed on horse cavalry formations, at least until the deficiencies with armor were addressed.

The cavalry units themselves, however, were not relics from the past as years of myths in various publications have claimed, but rather they were adapted to the demands of modern warfare. In 1921, a Polish Cavalry Training Center was opened in Grudziądz and over the next few years various organizational and tactical approaches were studied and implemented. The inspector general of the cavalry, General Tadeusz Rozwadowski, was a proponent of cavalry using armored vehicles and airplanes, as well as for the branch to be supported in combat by infantry, artillery, tanks, armored trains, and planes. General Gustaw Orlicz-Dreszer, who commanded Polish cavalry divisions in the 1920s, made the same recommendations, especially stressing cooperation with airplanes. Even though over the years there was an impression that Polish cavalry still relied on saber-swinging charges, in reality the leadership was well aware of the shortcomings of traditional charges on the battlefield and, in fact, in most situations discouraged them. Already in 1925, cavalry Captain Żórawski, who was a lecturer in the cavalry school at Grudziądz, taught that the style of fighting had evolved so much that an officer who had been taken out of the war in 1914 and then put back in 1918 would be completely lost, given how much the battlefield had changed, especially with the widespread use of machine guns. As a consequence, it was taught that cavalry charges were to be executed only in the following situations: in a surprise attack in a situation where

51. Ibid., 121.
the enemy had no time to use artillery or machine guns, on an enemy that was almost destroyed or retreating, or against charging cavalry. However, it was never permissible to charge against an enemy unit that was intact. A commander giving the order to charge was told that he should first and foremost consider whether a charge would justify the losses of such a maneuver. Stress was also put on the fact that each move the cavalry made on or near the battlefield ideally was to be protected by strong artillery fire and heavy machine guns.

The main role of cavalrymen was no longer to charge at the enemy with lances and sabers, but rather to use horses for mobility in order to quickly take up positions from which to use their firepower. Horses served mainly as a means of transportation and once on a battlefield, cavalrymen fought no differently from infantry, at which point horses were to be kept back so as to not expose them to the enemy’s artillery fire. Under the cavalry’s command were various weapons, including planes, tanks, and armored vehicles. The cavalry’s armament also included 37 mm wz. 36 Bofors antitank guns, which were designed to penetrate armor at least 24 mm thick. In January 1939, each cavalry regiment had three of these weapons and by 10 February 1939 all were to get a fourth gun, which without a doubt happened before September 1939. In 1938 a new weapon was added, a Polish-designed Maroszek wz. 35 antitank rifle, which was able to penetrate the armor of any German tank from 100 meters away. It was issued primarily to the cavalry and no other military at the time had a rifle that could match it. Hundreds of these rifles were captured and later reissued to German soldiers for the invasion of France in 1940. Thus, cavalry units had modern antiarmor weapons to fight with and after 1933 antiarmor defense became part of standard training, making sure that even those officers who did not know how to approach armor on the battlefield were trained to do so. For instance in one training exercise in 1933 a cavalry platoon commander, Captain Nowacki, when seeing an armored vehicle approaching, became overexcited and forgetting the official procedure, charged with his platoon on the vehicle. Afterwards, Major Gołaszewski told the platoon that they had made a mistake, and that the proper procedure would have been to retreat to the protection of the nearby forest from which to open fire.
The horse cavalry, therefore, did adapt to modern armored warfare and certainly possessed the weapons for it in 1939. The saber was still a weapon issued to the cavalry; even the German cavalry used sabers until 1941. Lances were officially dropped from the inventory in 1934, although they were still sometimes used in training. Since the whole process of training on a horse was to be treated as a sport, practicing with lances was believed to help the rider in gaining balance and confidence. Cavalrymen were not trained to use them in combat. General Roman Abraham wrote that when he was leaving the Bydgoszcz Cavalry Brigade (soon to be renamed the Pomorska Cavalry Brigade) in April 1937, he was leaving behind a unit which had vehicles, motorcycles, and bicycles, but kept its lances in the storage house.

The belief in cavalry using lances or fighting with outdated equipment might have been due to the confusion of regular units with other distinct formations. In 1924 Poland created the Korpus Ochrony Pogranicznej (Border Protection Corps) to protect the border from Soviet and Ukrainian infiltration. In peacetime this organization included nineteen squadrons of cavalry and two squadron divisions called “Niewirków.” When war erupted, eight squadrons were combined together to form one regiment, seven squadrons were attached to infantry divisions with a reconnaissance role, and the remaining two squadrons along with a “Niewirków” division were kept on the eastern border.

Furthermore, there was the Obrona Narodowa (National Defense) organization, which was established in 1936 from volunteers. In 1937, it was incorporated into the army and given regular military training. In 1939, these units made up about 10 percent of the fully mobilized troops. Lastly, beginning in 1932 cavalry units known as “Krakusi” were created. They consisted of volunteers and reservists who usually had their own uniforms and horses. Their equipment included lances, sabers, and rifles, and their role was to protect Polish territory. During the invasion of Poland, the failure by German soldiers to distinguish between these units and the regular brigades in the army could possibly have led to a perception that all of the Polish cavalry fought with outdated weapons and tactics. For instance, while in Katowice several Peugeot armored cars were used successfully by National Defense forces against a German Freikorps unit, these vehicles had been removed from the inventory of the regular army in 1929–1931 and were either in museums
or used by local police. Failure to distinguish between these volunteer units and regular army units might have given an impression that all of the Polish cavalry was equipped in such a style.

Even though the regular cavalry units evolved into a modern arm, many in the Polish military recognized the limits of this branch as well. Contrary to some claims, even the First Marshal of Poland, Józef Piłsudski, preferred to concentrate on strengthening the artillery and infantry rather than the cavalry because his experience in the First World War had convinced him that cavalry was no longer a significant offensive weapon. In the May Coup of 1926, Piłsudski’s men were disproportionately cavalry, not because of his conviction in their superiority, but rather because of his belief that they made a strong, noble appearance with moral value. Essentially, he hoped to emulate what Benito Mussolini had done in Italy and take over the government without any bloodshed. It is also important not to misinterpret Poland’s focus in the 1920s on greatly increasing its horse stud farms. During the First World War a large percentage of horses were taken from Polish stables and stud farms, many of them never to return. War with Soviet Russia took an additional toll on horses. Not only were horses vital for the military but also the nation still relied on them for transportation and agriculture. As late as 1929 there was still a shortage of horses in the military. The projected peacetime number was supposed to reach 70,136 but only 56,085 (80 percent) were in service. The cavalry required 37,292 horses but only got 21,179 (57 percent). Replenishing the supply of horses thus was crucial for the normal functioning of both civilian and military life.

By the 1930s, however, the focus was placed on a gradual reduction of the horse cavalry and a greater allocation of resources for planes and armor, as well as defense against them. On 1 January 1937 the horse cavalry made up 14.2 percent of the army, and by 1 June 1939, the number was down to 8.1 percent, due to the fact that the 10th Cavalry Brigade was completely motorized and the 2nd (Warsaw Armored-Motorized Brigade) was in the process of transformation. Looking at the transformation of the cavalry from another perspective, once Germany joined the Soviet Union as a serious threat in the mid-1930s, Poland launched a six-year rearmament plan, running from 1936 to 1942, and of all the money dedicated to modernization and enhancement of the military, only 0.29 percent was devoted to the horse cavalry. The sectors which got the lion’s share of

66. Hetherington, Unvanquished, 403.
67. Ibid., 560.
68. Królikowski, Ułańska Jesień, 82.
the funds were the air force (18 percent) and antiaircraft defense (14 percent). However, due to its importance, the phasing out of the cavalry was a gradual process; horses still provided the best, fastest, and cheapest transportation in the country, for both civilians and the military. Vehicles were faster on roads, but only about 3,300 kilometers or about 6 percent of Poland’s roads were serviceable for motor vehicle travel. Winter snows, spring melts, and heavy summer rains could make it difficult for armor to maneuver on the roads of Eastern Europe, as the German army learned when it invaded the Soviet Union.

Tanks and airplanes also were appreciated but there were simply not as many of them as there were in Western European countries and they could not be produced in much larger quantities due to the state of the economy and industry. Even proponents of armor, like General Władysław Sikorski, who served as Polish minister of war in the 1920s, had to admit that levels of mechanization were closely connected with a country’s industrial capacity and that tanks found it difficult to operate in terrains such as the forests, mountains, and marshes which proliferated across Eastern Europe. While future plans called for the army to be more mechanized, current conditions did not allow for this to occur on a massive scale in the 1930s, which meant that cavalry, equipped with modern weapons, remained a crucial component in the military.

The regular cavalry brigades in the Polish military were placed on the flanks of major army groups in order to fill in the gaps between them; those left under the control of the commander-in-chief were to act as reserves, used in critical places where needed. The cavalry units had the ability to quickly break away from the enemy; do wide-ranging reconnaissance missions; cover retreats; and protect the army’s flank. In an offensive action, they were to attack the enemy from the sides and the rear. The Soviet Union, as well as Germany, based their doctrine on fast-moving flanking actions; therefore it was crucial for the Polish cavalry to occupy flanking positions in order to protect the wings of its major army units and stop encirclements. It is likewise important that while it was estimated that an infantry division normally could effectively protect sixteen–eighteen kilometers of terrain, on the Eastern Front, due to the vastness of the border regions, each infantry division had to protect about twenty-five kilometers of territory. Therefore it was important to fill in the gaps between armies with cavalry.

72. Dunin-Żuchowski, Kawalerja, 3.
73. Brzoza i Sowa, Historia Polski, 224.
74. Dunin-Żuchowski, Kawalerja, 11.
76. Błasiński, Z Dziejów, 113.
The reliance on the cavalry in the Polish army was actually not too much different than in other European armies in which modernization and mechanization were implemented on a large scale only in the 1930s. Many influential military figures in other armies still saw a great value in cavalrymen. In fact, cavalry were still considered front-line elite units in most countries down through the decade prior to the Second World War, despite armor advocates.79 There were practical reasons for maintaining cavalry in certain countries. Not only was their mobility appreciated, but they also accomplished their missions with no great strain on factories which were hard-pressed to produce equipment to furnish the new fully motorized units. Furthermore, under certain conditions such as difficult weather or rough terrain, horses could accomplish tasks unsuitable for motorized units.80 This was certainly true in the case of Poland and the Eastern Front with the Soviet Union. Financial constraints and the geography of the region made the reliance on cavalry a necessity, not the failure of the Polish military to appreciate armor.

Many nations held on to cavalry for an exceptionally long time. In the United States, for instance, Brigadier General Hamilton S. Hawkins was a strong supporter of horses in the interwar period. Even after he retired in 1936 and acknowledged the advent of tanks, he still advocated using the cavalry in support of the tanks, in much the same way as infantry supported tanks during the First World War.81 Even General George S. Patton, Jr., did not entirely let go of the concept of cavalry; in a letter to a friend, he wrote: “In spite of my gasoline affiliations, I am convinced that the day of the horse is far from over and that under many circumstances horse cavalry and horse drawn artillery are more important than ever.”82 Mechanization of the cavalry began on a larger scale in the United States only in 1931 when the new army chief of staff, General Douglas MacArthur, decided that the army still lacked the necessary funds to develop an independent mechanized arm, and so disbanded the short-lived Mechanized Force, transferring its assets to the cavalry, mechanizing one regiment.83 In Europe, countries that always seemed to be at the forefront of modernization also relied on cavalry for a surprisingly long time. Britain, for instance, reduced its cavalry only by eight regiments, from twenty-eight to twenty, after the First World War, partly due to the success they had achieved in places like Palestine against the Turks.84 Mechanization on a larger scale began in 1928 when two cavalry regiments were converted to armored cars, and by 1935 almost the whole cavalry was mechanized.85 In France, the first cavalry division began its

80. Ibid., 7–8.
82. Ibid., 136–37.
83. Ibid., 128–29.
84. Ellis, Cavalry, 176.
transformation into a mechanized division only in 1931. Even though the process was completed in 1933, there was still a debate about how to use the new unit.86

The Soviet Union, along with Germany, experienced the same trend. Only in the mid-1930s did it begin to appear that armored formations were more numerous than horse cavalry. One of the reasons for this in the Soviet Union was that the country began producing one of its first successful tanks, the T-18 light tank, only in 1928.87 In Germany, General Hans von Seeckt, who played a leading role in the development of the German army during the Weimar Republic, also believed that the days of cavalry were far from over, stating that “the days of cavalry, if trained, equipped and led on modern lines, are not numbered, and that its lances may still flaunt their pennants with confidence in the wind of the future.”88 Germany began to develop its armored force in 1926, and would only have its first tank battalion ready in 1934 once the Panzer I tank went into mass production. However, mechanization proceeded rapidly after that: by 1938 there were already six armored divisions in existence and others were being formed.89 This rapid modernization was also visible in the German air force, where as late as 1930 the majority of the country’s military aircraft were still wood and fabric biplanes. The German Air Force only tested its first generation of high-performance piston engine, all-metal aircraft in 1935.90

While the trend was similar in Poland, countries like Germany had far more capital and industrial capacity to promote rapid modernization in the five or so years preceding the outbreak of the war. In 1933–1934, Germany spent only 4 percent of its national income on armament; by 1938–1939 that figure had risen to 22 percent.91 To provide some context, the Germans spent 49 billion dollars on the military in the four years preceding the invasion of Poland; at the time, that was more money than the entire national debt of the United States.92 In comparison, over the same period, Poland was spending 35 percent of its national budget of 5 billion dollars on the military, which amounted to only 160 million dollars.93 On

87. Kucharski, Kawaleria, 97.
92. The United States debt on 30 June 1939 was $40.4 billion. Historical Debt Outstanding—Annual 1900–1949, www.treasurydirect.gov.
the other side of the Polish border, in the years 1924–1934, the Soviet military budget was increased up to four times and its army received 21,010 tanks, 30,216 artillery pieces, and about 2.3 million rifles between 1930 and 1937.94

Even though both the Soviet Union and Germany spent an enormous amount of money on the military in the mid- to late-1930s, it is important to note their policies and the ways in which capital was accumulated and armament achieved so rapidly. In the case of the Germans, not only did Germany receive a much greater volume of loans and foreign investments, but also much was achieved for the military through territorial expansion. By annexing Austria in 1938, the German military potential increased by about twelve–eighteen divisions with some 2,000 additional officers.95 Furthermore, plenty of gold was taken from Austrian banks, along with a takeover of a strong car industry, and steel and iron industries which produced about 650,000 and 389,000 tons respectively a year. In the next few months, according to Adolf Hitler, Germany seized 1,582 planes and 468 tanks, which included superb tanks like the Panzers 35(t) and 38(t), in the occupation of Czechoslovakia.96 Inside Germany, various policies were adopted to confiscate wealth from the Jewish population. By the end of 1938 a vast majority of the 1.1 billion Reichsmarks worth of Jewish business assets had been seized, along with hundreds of millions of marks through the so-called “flight tax.” On 3 December 1938 any unsold Jewish assets, including personal valuables, were placed under the control of the government.97

In the Soviet Union, Joseph Stalin’s program of industrialization and collectivization was also successful in increasing the military potential and industrial output of the country, despite the horrific suffering of millions of peasants. These policies helped provide the means for Germany and the Soviet Union to mechanize and expand their armies on a large scale in a shorter time period than countries, like Poland, that were weaker economically. In 1933, Poland possessed modern armor and its air force boasted aircraft like the PZL P.11 fighter, which was introduced in 1931 and was one of the world’s most advanced. Poland also had the third largest army in Europe, led by experienced officers who commanded well-trained soldiers.98 By 1939, however, German and Soviet investment in and buildup of military equipment far outpaced Polish capabilities. Poland therefore found itself in a tenuous position, balancing its resources and focus between two strong and hostile neighbors, one on the eastern border (Soviet Union) and the other on the western border (Germany). Since the Second World War began with the German invasion of Poland, it is many times overlooked that throughout most of the interwar years the Soviet Union actually posed a greater threat to Polish security than Germany.

96. Zgórniaik, Europa, 77, 311.
97. Tooze, Wages of Destruction, 278–79.
98. Hetherington, Unvanquished, 692.
At the end of the First World War, the German military was limited by the Treaty of Versailles, while on the other side of Poland a destructive war erupted with Soviet Russia. Even when hostilities ended, tensions remained high. In 1924, for instance, a Polish intelligence report on the potential of the Red Army found that the Soviet Union kept twenty infantry divisions (about 33 percent of its total) and as many as seven cavalry divisions (about 50 percent of its total) on the border with Poland. A later report, dated 1 April 1926, concluded that the Red Army had increased its force on the Polish border by five infantry divisions and that the number was likely to increase.99 With the rise of Adolf Hitler to power in 1933 and his rejection of the Treaty of Versailles, Germany posed a great security risk for Poland as well, especially in the region of the Polish Corridor. Seeing the international situation deteriorating and being caught between two hostile neighbors, Poland tried to maintain neutrality by signing a nonaggression pact with Germany on 26 January 1934, already having signed a similar pact with the Soviet Union in 1932. However, not even two months after signing the document, Marshal Józef Piłsudski, Poland’s Military Minister, reckoned that the treaty with Germany guaranteed peace on the western border for only four years at most.100 This seemed to be confirmed in December of that year when Jerzy Englisch, head of Second Department of the Polish General Staff (Oddział II), which was responsible for military intelligence and counterintelligence, concluded that Germany would be ready for war in six–eight years, while it would take the Soviet Union fifteen–twenty years. The reasoning behind the greater potential for German aggression was that Berlin’s national priorities lay outside its borders, while those of the Soviet Union seemed to be internal for the moment.101 At the same time, besides the work of Oddział II, Piłsudski also assembled a special unit to investigate who presented the greatest danger to Poland: Germany or the Soviet Union. The panel concluded that the Soviet Union would be more dangerous than Germany because Poland’s Western allies would get involved in the conflict with Germany, while in a war with the Soviet Union, Poland would most likely remain alone and this was something that the Soviet leadership knew, making them a more likely aggressor and more unpredictable.102

Poland thus found itself in a hostile geographical position faced with having to make a difficult assessment of which of its neighbors would try to break its nonaggression pact first. In 1936, as part of a theoretical exercise, the Polish War College (which opened in 1918) was asked to explore the prospect of an offensive

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100. Brzoza i Sowa, Historia Polski, 481.
and defensive war against Germany, with or without the military cooperation of France. It was concluded that the Polish armed forces could hold out for a maximum of six weeks without the help of France before their ultimate defeat by the German army.103 As alarming as this conclusion was, it was still difficult to focus all attention on Germany and leave the eastern border lightly protected. The pressure from the Soviet Union simply did not ease, even when Germany began to expand; in 1935, at the Seventh World Congress of the Communist International, it sounded as if the Bolsheviks were preparing to launch another attempt at spreading their revolution to Western Europe.104 Meanwhile Polish military intelligence was reporting an alarming increase in the size of the Red Army. In one instance, on 17 September 1936 a Polish agent using the pseudonym “Valentin” sent a report from Ukraine stating that the Red Army was continuing to increase supplies of weapons and ammunition to its forces on the border with Poland.105 These reports continued down till the outbreak of the war, although there was a sense of relief after Joseph Stalin’s purge of the Red Army in the late 1930s. In 1938, about 90 percent of high-ranking and over 50 percent of mid-ranking officers were removed from the Red Army, being replaced by younger officers.106 This included such influential figures as Mikhail Tukhachevsky, director of the Frunze Academy, and a very influential figure in the development of Soviet mechanized formations. Afterwards, thinking that the Red Army would not be ready for an offensive war any time soon, in the few months before the outbreak of the war, Poland concentrated on building up its defenses and focusing its military plans against Germany.

Despite all the difficulties it faced in the interwar years, once war broke out in 1939, the Polish military was able to achieve great successes in many areas and its performance against the German army was greatly underrated, especially that of the cavalry units which have been the subject of myths ever since. There were numerous examples of cavalry performing outstanding defensive work: in one example, at the Battle of Mokra which took place on 1 September, the Wołyńska Cavalry Brigade was able to stop the German 4th Panzer Division for a whole day. Although they were supported by planes and motorized infantry, the 4th Panzer Division was not able to advance even though they tried five times over the course of the day. Both sides had heavy casualties, but the Germans lost about 100 armored vehicles and tanks.107 On the right wing of the Wołyńska Cavalry Brigade, two squadrons of the Polish 19th Regiment successfully charged a German infantry unit, forcing them to retreat even without engaging in a

The myth of Polish horse cavalry charging German armor most likely originated from the story of 18th Regiment of the Pomorska Cavalry Brigade. On 1 September, two squadrons of the regiment under Colonel Mastelarz charged at a German infantry battalion. The charge was a success, but shortly afterward several German light tanks arrived on the scene and, using automatic fire, killed about twenty cavalrymen, including Colonel Mastelarz. The following day, Italian war correspondents were told that the cavalry charged the tanks, and, with the aid of German propaganda, the story grew from there. Even in the war writing of the famous German panzer general Heinz Guderian, it is clear that whenever he spoke about cavalry charges, he did so in the context of the Poles trying to break free, usually under the cover of night, from encirclement by the German units.

The German army found out how crucial this branch of the military was in the fighting against the Soviet Union. The Red Army had as many as twenty-six divisions of cavalry, each of 5,000 men, in June 1941 and eventually expanded the branch even more due to its successes. The German military pinned against the Soviet cavalry had a difficult task as snow in the winter and mud in the autumn and spring posed tremendous problems for armor. The Pripyt Marshes, which measured approximately 354 kilometers by 153 kilometers separating Army Group Center and South, opened an exploitable gap for Soviet cavalry, as well as a gap between German armored formations and their supply lines, also making German operations vulnerable to partisan attacks. In one example, on 28 August 1941, Colonel Lev Dovator's 3,000-man cavalry formation broke through the 450th German Infantry Regiment and over the next two days, he and his men inflicted some 2,500 casualties on the Germans, overran two regimental headquarters and the topographical department of 6th Army, and destroyed 200 motor vehicles along with two tanks and four armored cars.

The German military responded by increasing their own cavalry contingent as the war stretched beyond 1941. By the end of the war, Germany had fielded 7 cavalry divisions, 8 if one included the former 1st Cavalry Division which became the 24th Panzer Division in 1941. This was only slightly fewer than the 11 cavalry divisions the Germans deployed in the First World War. Romania also provided six prewar cavalry brigades to the German war effort in Russia; they were converted into divisions in March 1942, each consisting of four instead of the original three regiments by 1944. It is often overlooked when studying the Second World War that of the 152 divisions Germany committed to Operation Barbarossa, 119 of them

108. Ibid., 262.
111. Jeffrey T. Fowler and Mike Chappell, Axis Cavalry in World War II (Oxford: Osprey, 2001), 12–16.
114. Fowler and Chappell, Axis Cavalry, 34.
were still horse-drawn.\textsuperscript{115} The fast expansion of the army in 1933–1939 outstripped the capacity of the nation’s iron and steel industries and, at the beginning of the war, only 14 out of 55 German divisions were fully motorized; the rest, about 70 percent, still relied on horses.\textsuperscript{116} Altogether, more than 2.7 million horses and mules were used by the Germans in the course of the war.\textsuperscript{117}

Even after the war, the Soviet Union maintained cavalry units, which proved useful in the early 1950s. In 1953, retired Major General John Herr, the last U.S. chief of cavalry, pointed out that the Soviet Union had twenty-five cavalry divisions capable of moving across rough terrain in ways that American motorized units simply could not while fighting in Korea.\textsuperscript{118} Even in the modern era, cavalry continues to prove its usefulness. When the Kosovo Force (KFOR), the NATO-led international peacekeeping force, entered Kosovo in the former Yugoslavia in 1999, it relied in many places on horse-mounted patrols instead of modern vehicles to secure peace.\textsuperscript{119} In an even more striking example, when fighting in Afghanistan after 2003 many American soldiers used horses to move around the difficult terrain, as well as for military purposes, for instance coordinating a cavalry charge right after a B–52 bombardment, as reported in 2002.\textsuperscript{120} And so till this day, horse-mounted troops have not completely disappeared from the military scene.

The days of cavalrymen were far from over in 1939; even though modern warfare had advanced expeditiously, the horse cavalry remained an instrumental component of war in Eastern Europe. Although after the war ended, the Polish cavalry was perceived as a symbol of a brave, yet backward country, the reality was far from the myths which circulated in publications. Considering the desperate situation in which Poland found itself upon regaining its independence in 1918 and the problems which followed, the country made impressive strides in nation-building in a remarkably short time. The transformation of the military over this twenty-year period was certainly impressive. Lacking the industrial and financial capacity for the rapid production of armored equipment once war became imminent, the nation was obliged to rely on its cavalry units, which, contrary to popular belief, were able to transform themselves into a fierce opponent in combat. Using horses for rapid maneuvering and utilizing the latest anti-armor weapons, the arm proved its lasting value on a modern battlefield.

\textsuperscript{116} Fowler and Chappell, \textit{Axis Cavalry}, 6.
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