

British Tradition vs. German Innovation:

The Continued Development of Mechanized Doctrine During the Inter-War Years

by Major David P. Cavaleri

"...The tank proper was a freak. The circumstances which called it into existence were exceptional and are not likely to occur again. If they do, they can be dealt with by other means."

-MG Sir Louis Jackson, British Army

As the Armor Force prepares to enter the 21st century, some claim that there is no longer a need for a standing force of main battle tanks. These critics state that Operation Desert Storm was the last large-scale requirement for massed formations of armored vehicles, and that future conflicts will not need the services of our branch as it exists today.

The British Army, successful in developing, fielding, and employing armored vehicles during WWI, turned its back on mechanized doctrine during the inter-war years and paid the price for its narrow-minded outlook on the future of warfare. The study of mechanized doctrine development during the period 1919-1939 is valuable for several reasons: it can provide historical perspective concerning the development of our branch, and it can reassure us that the argument against the retention of a heavy tank force is neither new nor well-founded.

In his book, *The Tank*, Douglas Orgill stated that operations between July 1916 and August 1918 focused the British General Staff on the real value of tanks in the offensive. By using tanks massed in formations of hundreds, the British hoped to overcome the effects of the battlefield stalemate on wide fronts. Appearing simultaneously with this attitude was the need to provide what had been lacking in previous operations, namely "an effective reserve for the second, third, fourth, and fifth days of the battle, so that a breakthrough could be made through the whole depth of the front."¹

Once the breakthrough occurred, then, "and only then," Orgill stated, "might the cavalry come into its own."² But by the end of 1918, the British Expeditionary Force viewed the tank not as a substitute for cavalry but as a wrecker of infantry morale. The British maintained the philosophy that the tank was auxiliary to both the infantry and the cavalry; useful for penetrating defensive belts but incapable of assuming the role of a primary combat arm. As subsequent events showed, few British military professionals during the inter-war period wanted to replace either the infantry or cavalry with a mechanical innovation.

In the years following WWI, the British Army remained steadfastly devoted to the infantry and cavalry as its primary battlefield combat branches, due in no small part to the opinion of senior military leaders like General Sir Douglas Haig. In December 1918, he recorded his thoughts on the effectiveness of the infantry, artillery, and cavalry, based on his experiences with operations like the Somme, Cambrai, and Hamel. With regard to the infantry, he wrote: "Despite the enormous development of mechanical invention... the infantry remains the backbone of defense and the spearhead of the attack."³ He credited the increase in the number of artillery pieces and the amount of munitions, along with improved ranging techniques, with fostering "the intimate cooperation between artillery and infantry... which has been a marked feature of our operations."⁴ The cavalry, whether used for shock effect, "under suitable conditions," or as mobile infantry, still had "an indispensable part to play in modern war." While he gave credit to the tanks for their role in breaking through defenses, he was adamant in his view that mechanical innovations were useful only for supporting the primary branches. These opinions are both unmistakably traditional and

yet surprising, given the fact that Haig was the most supportive senior leader regarding the tanks and early mechanized doctrine during the war itself. The following quote portrays clearly Haig's opinion of the relationship between innovative mechanical weapons and the traditional combination of infantry and cavalry:

"It should never be forgotten however that weapons of this character [motor transport, heavy artillery, machine guns, aeroplanes, tanks] are incapable of effective independent action. They do not in themselves possess the power to obtain a decision, their real function being to assist the infantry to get to grips with their opponents."⁵

Clearly, Haig viewed the proper role of the tank as being auxiliary to the infantry. Because of opinions like these, post-WWI mechanized development in the British Army slowed dramatically in comparison to the period between 1916 and 1918. During the last three months of the war, the British employed tanks in large numbers along the tactical models established at Cambrai and Amiens, with great success. On August 21, 1918, they opened the Battle of Bapaume with 190 tanks; on September 27 the BEF launched a direct attack on the Hindenburg Line with 230 tanks, succeeding in advancing twenty miles in two weeks and capturing 48,000 prisoners and 630 guns.⁶ And yet, in spite of the demonstrated success of these and other tank operations, by November 1918 roughly fifty percent of the almost 2,000 tanks used by the BEF since Amiens were sent to the salvage yards to be scrapped, and by Armistice Day only 204 tanks were operational and ready for duty.⁷

These statistics would indicate that the British War Office believed the need for tanks had arisen out of requirements peculiar to the WWI battle-



Post-WWI British neglect of tank development handicapped their armored force well into WWII. This Crusader, shown being tested at Fort Knox in 1942, weighed just 18 tons, mounted an ineffective 37mm cannon, and still employed riveted armor, which had been discredited because, when hit, the rivets flew around inside the fighting compartment.

field and saw no need to maintain high levels of tank production once the war was over. Because the tank had evolved in direct response to the problems posed by trench warfare, and be-

which came together at war's end to frame the British Army's inter-war philosophy concerning the role of the tanks and the need for standing tank units.

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cause the likelihood of another war fought along the those same lines was deemed slim, the Treasury saw no need to invest the funds. In mid-November 1918 the Ministry of Munitions canceled all orders for the future production of 6,000 tanks. One senior officer, Major-General Sir Louis Jackson, went so far as to state, "The tank proper was a freak. The circumstances which called it into existence were exceptional and are not likely to occur again. If they do, they can be dealt with by other means."⁸

Despite the successes of 1918, by the end of 1919 the British Tank Corps consisted of only four battalions, down from a wartime level of twenty-five battalions in 1918.⁹ British tanks fell victim to a combination of variables, a combination which I submit is not terribly unlike that which we face today,

The inter-war period for the British Army was filled with debate over the changing roles of the infantry, cavalry, and mechanized arms. Historians Robert Larson, Charles Messenger, and Bryan Perret all devote significant time to discussions of this period; Larson because his central topic is primarily the development of British mechanized strategy after WWI, and Messenger and Perret because this period forms the foundation for their analyses of blitzkrieg operations. During the inter-war period, even though British tank production slowed dramatically and the Tank Corps remained numerically small, doctrinal development continued under visionaries like J.F.C. Fuller and B.H. Liddell Hart.

Fuller's work on the 1920 version of the British Army *Field Service Regulations* emphasized the tank's firepower and mobility and specified that the tanks' missions in the attack were to: assist the advance of the infantry; destroy hostile tanks; and exploit any success.¹⁰ He also stressed the necessity for constant coordination between tanks and infantry: "Tanks must protect infantry from machine gun fire and the

delay imposed by uncut wire; infantry must protect tanks from the close range fire of enemy field artillery and anti-tank guns."¹¹

Despite this kind of recognition for the tanks and their potential, the *Field Service Regulations* maintained the traditional emphasis on the infantry and cavalry as the primary combat maneuver arms of the British Army. These regulations set the tone for the inter-war period of tactical development for the British, and that tone specified that traditional arms would retain the primary roles in offensive operations, while artillery and tanks performed support roles. By cutting through wire and destroying enemy strongpoints, tanks enabled the infantry to attack without sacrificing the element of surprise during preparatory artillery bombardments. As a result, the use of tanks reinforced the validity of the WWI strategy of attrition because it increased the effectiveness of that strategy. "This," said Larson, "was the contention that the theorists of armored warfare challenged and which forms the focus of the tank controversy in the British Army during the inter-war years."¹² Fuller's work on this and other writings continued theoretical doctrine development and helped keep the idea of mechanized offensive operations alive.

Liddell Hart was a British infantry officer and a keen student of military history who believed that future wars would be shaped by the combined employment of tanks, artillery, and aircraft. Forced to resign from the British Army in 1924 for health reasons, he turned to the full-time study of military operations from ancient Rome to 1918, writing for *Encyclopedia Britannica*. While researching this material, he developed a concept of strategic operations he termed the "strategy of indirect approach."¹² This strategy, as he outlined in his work of the same title originally published in 1929, involved more than troop movement and supply routing on the battlefield. Hart proposed a departure from the traditional European frontal assault mindset to one circuitous in both spirit and execution.

He determined through his studies of various successful military leaders, such as Philip of Macedon, Alexander the Great, Hannibal, Cromwell, and Napoleon, that throughout history "decisive results in war have only been reached when the approach had been indirect. In strategy, the longest way

round is apt to be the shortest way home.”¹³

Liddell Hart became convinced that in any major military operation, the opponent who pursued a “direct approach,” that is, along the expected lines of attack, often experienced disappointing results. He stated that “to move along the line of natural expectation consolidates the opponent’s equilibrium, and by stiffening it, augments his resisting power.”¹⁴ He claimed that his study of decisive military campaigns demonstrated that the dislocation of the enemy’s psychological and physical balance was the vital prelude to a successful attempt at his overthrow.¹⁵ One need only review the trench warfare practices of WWI to recognize the validity of the argument against a strictly “direct” approach to warfare. One can also imagine easily the resistance which Liddell Hart faced in his efforts to develop doctrine for the future.

By 1933, the British Army was comprised of 136 infantry battalions, 20 regular cavalry regiments, 21 Indian cavalry regiments, 16 training regiments, and only four tank battalions.¹⁶ These unit allocations represent the real areas of tactical emphasis for the British. The only real concession to the future of mechanization came when the War Office decided in 1937 that all the cavalry regiments would exchange their horses for light tanks. These tanks which, Orgill said, “if not horses, at least looked like they were the nearest thing available to a mechanized horse,”¹⁷ enabled the cavalry to retain its spirit as well as its role as a primary combat arm. Yet, it is plain to see that the traditional combination of infantry and cavalry remained the backbone of the British Army during the inter-war period.

Liddell Hart’s study is significant because he maintained that, with correct employment, the tank was admirably suited for much more than infantry support missions. The tank had not only demonstrated the potential for effective penetration of established defensive lines (the direct approach), but Liddell Hart insisted that tanks were capable of rear area exploitation operations against enemy command and logistics centers (the indirect approach.) By marrying historical examples with the demonstrated results of WWI tank



The PzKw III medium tank, seen here in Russia in 1942, was the backbone of Germany’s Panzer Corps early in WWII. Its versatile design supported several generations of upgrade during the course of the war, including improved armor and more powerful armament. Coherent German armor doctrine maximized its effectiveness.

operations, this study did much to focus the potential of mechanized operations at the doctrinal level. The British Army, distracted by the debate between traditionalists like Haig and visionaries like Fuller and Liddell Hart, and restricted by the post-war economic de-

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pression, took note of Hart’s work, but made minimal progress towards preparing the Tank Corps for the future. While the British were thus stymied, the Germans devoted great energy and resources to developing a mechanized force with the tank as its foundation. In 1936, the British Army fielded 209 light tanks and 166 medium tanks in its four battalions. Out of this total, 140 of the light tanks and 164 of the medium tanks were obsolete. In contrast, the Germans at that time fielded 1,600 new light tanks and between 300 and 400 new medium tanks.¹⁸ Perhaps more important than the sheer numerical superiority was the fact that German mechanized doctrine developers during the interwar period understood its potential and were dedicated to creating

an offensive force based on the tank. General Heinz Guderian was among the foremost of those leaders.

Guderian was the first of the German generals to grasp fully the significance of the work done by Fuller and Liddell Hart. He credited both men with providing him with his initial motivation to pursue a working mechanized doctrine:

“It was principally the books and articles of the Englishmen, Fuller, Liddell Hart,...that excited my interest and gave me food for thought. They envisioned [the tank] in the relationship to the growing motorization of our age, and thus became the pioneers of a new type of warfare on the largest scale.”¹⁹

Supported by the principles outlined in Fuller and Liddell Hart, and WWI experiences at the hands of the British tanks, Guderian succeeded in convincing Hitler of the potential success to be gained by organizing entire units of tanks and mechanized infantry under one command. In 1935, Hitler authorized the creation of the first three panzer divisions.²⁰ Under Guderian’s leadership, each division contained a mixture of heavy and light tanks, motorized infantry battalions, mechanized engineers, mechanized reconnaissance elements, field artillery units, and signal units.²¹ This type of organization is significant because Guderian designed each panzer division to be an inde-

pendent combined arms command, with a core of tanks to spearhead offensive operations, and capable of diverse missions.

For Guderian, the combined arms operation came to life in the "blitzkrieg." This concept of mechanized warfare combined the basic elements developed and revised during WWI, incorporated the principles espoused by Fuller and Liddell Hart, and added a spirit of ruthlessness and efficiency. The primary characteristics of blitzkrieg operations were speed, surprise, maneuver, and overwhelming firepower concentrated on a narrow front.²² In its execution, reconnaissance units located enemy weaknesses and protected the advancing division's flank. Tanks with air support predominated in seizing vital objectives and held them until infantry units with antitank capabilities arrived to secure them against counterattack. Artillery supported all phases of the attack and temporary defense.

Guderian considered the key to offensive success to be movement. He believed that by attacking with tanks, he could sustain a higher rate of movement and that, once a breakthrough was made, the movement could be maintained by the combined arms division.²³ Since the tank had developed in response to the loss of battlefield mobility in 1916, and since it had demonstrated the capability to restore momentum to the BEF, Guderian's reliance on tanks to lead his assaults and maintain forward momentum seems logical. The doctrine of the blitzkrieg in many aspects represented the strategy of the indirect approach and traditional frontal maneuver taken to a higher level. When the Germans launched their assault into Poland in September, 1939, Guderian had at his disposal forty infantry, six panzer, four light and four mechanized divisions with a total strength of 2,977 tanks.²⁴ The Polish campaign proved the validity of Guderian's concept; he considered the campaign to have been the baptism of fire for both his armored formations as well as the overall philosophy of the blitzkrieg.²⁵

This series of three articles in *ARMOR* (Nov-Dec 95, Nov-Dec 96, and Mar-Apr 97) has shown clearly that the tank was designed in the early stages of WWI as strictly an infantry support weapon, developed in direct response to the loss of mobility in the face of barbed wire, artillery barrages, and machine guns. Ernest Swinton surely never

envisioned the tank as the primary offensive arm of an operation; for him, the tank was auxiliary to the infantry, who remained the premier maneuver force on the battlefield. As British tactical doctrine developed in the latter stages of the war, the tank took on an increasingly offensive role, but always remained secondary to the infantry and cavalry.

The immediate post-war reduction in British standing tank forces indicated a reluctance on the part of the military establishment to continue practical development of mechanized equipment or doctrine. It was the Germans under Guderian who expanded on the basic principles of tank operations and pursued the concept of large combined arms divisions and rapid, long-range offensive maneuver. To state that the German blitzkrieg is the logical result of the progression of WWI mechanized doctrine is to make an inaccurate analysis. Guderian built on the early work of men like Swinton, Fuller, and Liddell Hart, but also incorporated an offensive philosophy, a spirit of innovation, and the fiscal support to fund new vehicle production, none of which were present in the British Army during the inter-war period.

In the final analysis, the mechanized operations conducted by the BEF were innovative solutions to the problems posed by the battlefield stalemate. Tanks provided the means by which mobility was restored to the infantry, enabling them to penetrate defensive lines and fight the battle. The British Army ignored, for the most part, the offensive potential which existed in mechanized operations. During the inter-war years, the tank retained its original mission and purpose for the British, while under the Germans it assumed a new role as the primary offensive component of the blitzkrieg spearhead. It may very well be that the world will never again see the need for large armored formations along the lines of Operation Desert Storm; however, the alternative to striking a suitable balance between either standing down the heavy force or retaining excessive heavy capabilities is, to my mind, unacceptable given the historical precedent.

Notes

¹Douglas Orgill, *The Tank: Studies in the Development and Use of a Weapon* (London: Heinemann Publishing Co., 1970), p. 83.

²Ibid.

³J.H. Boraston, *Sir Douglas Haig's Despatches, Dec. 1915 - April 1919* (New York: Charles Scribner's Sons, 1927), p. 300.

⁴Ibid.

⁵Ibid., p. 327.

⁶Robert H. Larson, *The British Army and the Theory of Armored Warfare, 1918-1940* (Newark: University of Delaware Press, 1984), p. 63.

⁷Ibid.

⁸B.H. Liddell Hart, *The Tanks: The History of the Royal Tank Regiment* (London: Cassell Publishing, 1959), vol. 1, p. 306; cited in Charles Messenger, *The Blitzkrieg Story* (New York: Charles Scribner's Sons, 1976), p. 36.

⁹Messenger, p. 37.

¹⁰Great Britain, War Office, *Field Service Regulations*, vol. 2: *Operations* (London: HMSO, 1920,) pp. 31-32; cited in Larson, p. 113.

¹¹Ibid.

¹²Ibid., p. 67.

¹³Hart, p. 4.

¹⁴Ibid., p. 5.

¹⁵Ibid.

¹⁶Orgill, p. 98.

¹⁷Ibid.

¹⁸Messenger, p. 108.

¹⁹Heinz Guderian, *Panzer Leader* (New York: Dutton Publishing, 1952), p. 20.

²⁰Ibid.

²¹Ibid., Appendix XXIV.

²²Ferdinand O. Miksche, *Attack: A Study of Blitzkrieg Tactics* (New York: Random House, 1942), p. 10.

²³Guderian, p. 42.

²⁴Bryan Perret, *A History of Blitzkrieg* (New York: Stein and Day Publishers, 1983), p. 78.

²⁵Guderian, p. 82.

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